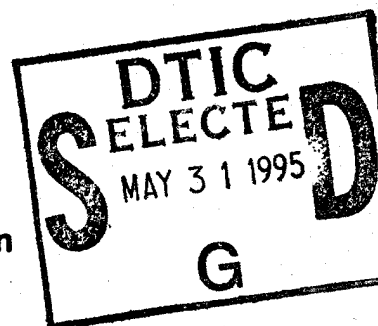


AL/EQ-TR-1993-0009  
Vol V of V  
Part 2 of 2



**AIR FORCE SITE CHARACTERIZATION AND ANALYSIS PENETRO-  
METER SYSTEM (AFSCAPS): LASER-INDUCED FLUORESCENCE CONE  
PENETROMETER - ANALYTICAL TESTING DATA SHEETS  
(VOL V OF V - PART 2 OF 2)**

James D. Shinn, Wesley L. Bratton



Applied Research Associates, Inc.  
RFD #1, Box 120-A, Waterman Road  
South Royalton, VT 05068

ENVIRONICS DIRECTORATE  
139 Barnes Drive, Suite 2  
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December 1994

Final Technical Report for Period March 1992 - November 1992

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TYNDALL AIR FORCE BASE, FLORIDA 32403-5323

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This report has been reviewed and is approved for publication.



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12. PERSONAL AUTHOR(S) James D. Shinn, Wesley L. Bratton					
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FIELD	GROUP	SUB-GROUP			
19. ABSTRACT (Continue on reverse if necessary and identify by block number) A prototype Laser-Induced Fluorescence-Electric Cone Penetrometer Test (LIF-CPT) system was demonstrated at Tinker Air Force Base (Tinker AFB), Oklahoma as an innovative technology for delineating soil contamination resulting from fuel spills. Applied Research Associates, Inc. (ARA) and the North Dakota State University (NDSU) conducted the development program for the Air Force using LIF-CPT components developed within the Triservice Site Characterization and Analysis Penetrometer System (SCAPS) effort. Major components of the system consisted of ARA's cone penetrometer system coupled with NDSU's tunable laser fluorimeter. To enable rapid, efficient and minimally invasive site characterization, the LIF-CPT probe data output was linked to ARA's real-time analysis system with three-dimensional modeling and scientific visualization capabilities. Field testing at Tinker AFB was conducted to evaluate the LIF-CPT probe. During the testing program, 112 soundings at eight contaminated sites were conducted. At select locations, soil and water samples were obtained with CPT or drilling technologies, and tested using analytical procedures to confirm the presence of fuel contamination. This volume documents the analytical testing results from the off-site laboratory used during the demonstration program.					
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## APPENDIX I

### ANALYTICAL RESULTS FROM SOIL SAMPLES FROM BLDG 3001 OUTFALL- EAST SOLDIER CREEK

Accession For	
NTIS	CRA&I <input checked="" type="checkbox"/>
DTIC	TAB <input type="checkbox"/>
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Justification .....	
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Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OSC-B01-SS1 @16'  
Collected By: JPJ  
Date & Time Taken: 09/25/92 1750  
Other Data: AFSCAPS Job #5735, Tinker AFB  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 221835 Received: 09/28/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Phenols	ND	mg/kg	1500 10/05/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1730 10/02/92		EPA Method 420.1	KC
Total Arsenic	ND	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Barium	32	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Cadmium	ND	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Chromium	5.6	mg/kg	1136 10/15/92	.2	EPA Method 6010	RJC
Total Mercury	ND	mg/kg	1400 10/02/92	.05	EPA Method 7470	SY
Total Nickel	3.3	mg/kg	1244 10/14/92	.6	EPA Method 6010	RJC
Total Lead	2	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Zinc	4.1	mg/kg	1244 10/14/92	.1	EPA Method 6010	RJC
Metals Digestion - 3050 Fl	Digested 50/4		0730 10/08/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		0845 10/02/92		EPA Method 7471	JHL

Quality Assurance for the SET with Sample 221835

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
Phenols									
	Blank	<.02	mg/l				1500	10/05/92	WMB
	Standard	.050	mg/l	.050		100	1500	10/05/92	WMB
222287	Duplicate	.02	mg/l	.02		100	1500	10/05/92	WMB
Total Arsenic									
	Blank	<.1	mg/l				1136	10/15/92	RJC

Continued



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221835 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Blank	<.1	mg/l				1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	2.2	mg/l	2.0		110	1136	10/15/92	RJC
	Standard	.99	mg/l	1.0		101	1136	10/15/92	RJC
	Standard	2.0	mg/l	2.0		100	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
	Standard	.7	mg/l	.6		115	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1136	10/15/92	RJC
221715	Duplicate	1	mg/kg	1		100	1136	10/15/92	RJC
221855	Duplicate	5	mg/kg	3		150	1136	10/15/92	RJC
221864	Duplicate	5	mg/kg	5		100	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	109	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	93	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	109	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	89	1136	10/15/92	RJC
<b>Total Barium</b>									
	Blank	.02	mg/l				1136	10/15/92	RJC
	Blank	<.01	mg/l				1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	5.1	mg/l	5.0		102	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	1.7	mg/l	2.0		116	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	2.1	mg/l	2.0		105	1136	10/15/92	RJC
	Standard	10	mg/l	10		100	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
221715	Duplicate	580	mg/kg	560		104	1136	10/15/92	RJC
221855	Duplicate	200	mg/kg	180		111	1136	10/15/92	RJC
221864	Duplicate	22	mg/kg	20		110	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	91	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	110	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	98	1136	10/15/92	RJC
<b>Total Cadmium</b>									
	Blank	<.01	mg/l				1136	10/15/92	RJC
	Blank	<.01	mg/l				1136	10/15/92	RJC
	Standard	.53	mg/l	.50		106	1136	10/15/92	RJC
	Standard	2.2	mg/l	2.0		110	1136	10/15/92	RJC
	Standard	2.6	mg/l	2.5		104	1136	10/15/92	RJC
	Standard	.53	mg/l	.50		106	1136	10/15/92	RJC
	Standard	1.7	mg/l	2.0		116	1136	10/15/92	RJC
	Standard	.54	mg/l	.50		108	1136	10/15/92	RJC
	Standard	.52	mg/l	.50		104	1136	10/15/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1136	10/15/92	RJC
221715	Duplicate	3	mg/kg	3		100	1136	10/15/92	RJC
221855	Duplicate	2	mg/kg	2		100	1136	10/15/92	RJC

Continued



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221835 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
221864	Duplicate	3.3	mg/kg	3.0		110	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	96	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	91	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	89	1136	10/15/92	RJC
221715	Spike		mg/l		2.0	104	1136	10/15/92	RJC
<b>Total Chromium</b>									
	Blank	<.02	mg/l				1136	10/15/92	RJC
	Blank	<.02	mg/l				1136	10/15/92	RJC
	Standard	2.2	mg/l	2.0		110	1136	10/15/92	RJC
	Standard	5.3	mg/l	5.0		106	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	1.8	mg/l	2.0		111	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	.11	mg/l	.10		110	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
222319	Duplicate	.02	mg/l	.02		100	1136	10/15/92	RJC
221715	Duplicate	11	mg/kg	15		131	1136	10/15/92	RJC
221855	Duplicate	8	mg/kg	7		113	1136	10/15/92	RJC
221864	Duplicate	14	mg/kg	12		115	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	99	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	94	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	92	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	92	1136	10/15/92	RJC
<b>Total Mercury</b>									
	Blank	.001	mg/l				1400	10/02/92	SY
	Standard	.026	mg/l	.025		104	1400	10/02/92	SY
	Standard	.010	mg/l	.010		100	1400	10/02/92	SY
	Standard	.010	mg/l	.010		100	1400	10/02/92	SY
	Standard	.009	mg/l	.010		111	1400	10/02/92	SY
	Standard	.010	mg/l	.010		100	1400	10/02/92	SY
220412	Duplicate	ND	mg/kg	ND		100	1400	10/02/92	SY
220803	Duplicate	ND	mg/kg	ND		100	1400	10/02/92	SY
220412	Spike		mg/l		.010	64	1400	10/02/92	SY
220803	Spike		mg/l		.010	99	1400	10/02/92	SY
<b>Total Nickel</b>									
	Blank	<.05	mg/l				1244	10/14/92	RJC
	Blank	<.05	mg/l				1244	10/14/92	RJC
	Standard	.40	mg/l	.40		100	1244	10/14/92	RJC
	Standard	2.1	mg/l	2.0		105	1244	10/14/92	RJC
	Standard	5.2	mg/l	5.0		104	1244	10/14/92	RJC
	Standard	1.8	mg/l	2.0		111	1244	10/14/92	RJC
	Standard	1.0	mg/l	1.0		100	1244	10/14/92	RJC
	Standard	5.2	mg/l	5.0		104	1244	10/14/92	RJC
	Standard	10	mg/l	10		100	1244	10/14/92	RJC
	Standard	5.5	mg/l	5.0		110	1244	10/14/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1244	10/14/92	RJC

Continued



THE COMPLETE SERVICE LAB

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221835 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
221715	Duplicate	8.4	mg/kg	9.1		108	1244	10/14/92	RJC
221855	Duplicate	4.6	mg/kg	4.0		114	1244	10/14/92	RJC
222319	Spike		mg/l		2.0	99	1244	10/14/92	RJC
221715	Spike		mg/l		2.0	88	1244	10/14/92	RJC
221855	Spike		mg/l		2.0	92	1244	10/14/92	RJC
Total Lead									
	Blank	<.1	mg/l				1136	10/15/92	RJC
	Blank	<.1	mg/l				1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	2.1	mg/l	2.0		105	1136	10/15/92	RJC
	Standard	5.2	mg/l	5.0		104	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
	Standard	1.8	mg/l	2.0		111	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
	Standard	.62	mg/l	.60		103	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1136	10/15/92	RJC
221715	Duplicate	5	mg/kg	4		122	1136	10/15/92	RJC
221855	Duplicate	2	mg/kg	2		100	1136	10/15/92	RJC
221864	Duplicate	5	mg/kg	4		122	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	95	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	90	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	93	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	89	1136	10/15/92	RJC
Total Zinc									
	Blank	<.01	mg/l				1244	10/14/92	RJC
	Blank	.02	mg/l				1244	10/14/92	RJC
	Standard	.21	mg/l	.20		105	1244	10/14/92	RJC
	Standard	2.0	mg/l	2.0		100	1244	10/14/92	RJC
	Standard	5.2	mg/l	5.0		104	1244	10/14/92	RJC
	Standard	1.8	mg/l	2.0		111	1244	10/14/92	RJC
	Standard	1.1	mg/l	1.0		110	1244	10/14/92	RJC
	Standard	5.3	mg/l	5.0		106	1244	10/14/92	RJC
	Standard	10	mg/l	10		100	1244	10/14/92	RJC
222319	Duplicate	.80	mg/l	.77		104	1244	10/14/92	RJC
221715	Duplicate	14	mg/kg	16		113	1244	10/14/92	RJC
221855	Duplicate	7.3	mg/kg	5.9		121	1244	10/14/92	RJC
222319	Spike		mg/l		2.0	95	1244	10/14/92	RJC
221715	Spike		mg/l		2.0	93	1244	10/14/92	RJC
221855	Spike		mg/l		2.0	95	1244	10/14/92	RJC

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President





2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OSC-B02-SS1 @11'

Collected By: JPJ

Date & Time Taken: 09/25/92 1800

Other Data: AFSCAPS Job #5735, Tinker AFB

Bottle Data: 1 -- Unpreserved Plastic/Glass (00)

Lab Sample Number: 221836 Received: 09/28/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Phenols	ND	mg/kg	1500 10/05/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		2030 10/02/92		EPA Method 420.1	KC
Total Arsenic	4	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Barium	170	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Cadmium	5	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Chromium	21	mg/kg	1136 10/15/92	.2	EPA Method 6010	RJC
Total Mercury	ND	mg/kg	1400 10/02/92	.05	EPA Method 7470	SY
Total Nickel	14	mg/kg	1244 10/14/92	.6	EPA Method 6010	RJC
Total Lead	5	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Zinc	21	mg/kg	1244 10/14/92	.1	EPA Method 6010	RJC
Metals Digestion - 3050 FL	Digested 50/4		0730 10/08/92		EPA Method 3050 FL	JHL
Metals Digestion - 7471	Digested 50/1		0845 10/02/92		EPA Method 7471	JHL

Quality Assurance for the SET with Sample 221836

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
Phenols									
222287	Blank	<.02	mg/l				1500	10/05/92	WMB
	Standard	.050	mg/l	.050		100	1500	10/05/92	WMB
	Duplicate	.02	mg/l	.02		100	1500	10/05/92	WMB
	Total Arsenic								
	Blank	<.1	mg/l				1136	10/15/92	RJC

Continued



11/05/92

221836 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Blank	<.1	mg/l				1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	2.2	mg/l	2.0		110	1136	10/15/92	RJC
	Standard	.99	mg/l	1.0		101	1136	10/15/92	RJC
	Standard	2.0	mg/l	2.0		100	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
	Standard	.7	mg/l	.6		115	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1136	10/15/92	RJC
221715	Duplicate	1	mg/kg	1		100	1136	10/15/92	RJC
221855	Duplicate	5	mg/kg	3		150	1136	10/15/92	RJC
221864	Duplicate	5	mg/kg	5		100	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	109	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	93	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	109	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	89	1136	10/15/92	RJC
<b>Total Barium</b>									
	Blank	.02	mg/l				1136	10/15/92	RJC
	Blank	<.01	mg/l				1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	5.1	mg/l	5.0		102	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	1.7	mg/l	2.0		116	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	2.1	mg/l	2.0		105	1136	10/15/92	RJC
	Standard	10	mg/l	10		100	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
221715	Duplicate	580	mg/kg	560		104	1136	10/15/92	RJC
221855	Duplicate	200	mg/kg	180		111	1136	10/15/92	RJC
221864	Duplicate	22	mg/kg	20		110	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	91	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	110	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	98	1136	10/15/92	RJC
<b>Total Cadmium</b>									
	Blank	<.01	mg/l				1136	10/15/92	RJC
	Blank	<.01	mg/l				1136	10/15/92	RJC
	Standard	.53	mg/l	.50		106	1136	10/15/92	RJC
	Standard	2.2	mg/l	2.0		110	1136	10/15/92	RJC
	Standard	2.6	mg/l	2.5		104	1136	10/15/92	RJC
	Standard	.53	mg/l	.50		106	1136	10/15/92	RJC
	Standard	1.7	mg/l	2.0		116	1136	10/15/92	RJC
	Standard	.54	mg/l	.50		108	1136	10/15/92	RJC
	Standard	.52	mg/l	.50		104	1136	10/15/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1136	10/15/92	RJC
221715	Duplicate	3	mg/kg	3		100	1136	10/15/92	RJC
221855	Duplicate	2	mg/kg	2		100	1136	10/15/92	RJC

Continued

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221836 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
221864	Duplicate	3.3	mg/kg	3.0		110	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	96	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	91	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	89	1136	10/15/92	RJC
221715	Spike		mg/l		2.0	104	1136	10/15/92	RJC
<b>Total Chromium</b>									
	Blank	<.02	mg/l				1136	10/15/92	RJC
	Blank	<.02	mg/l				1136	10/15/92	RJC
	Standard	2.2	mg/l	2.0		110	1136	10/15/92	RJC
	Standard	5.3	mg/l	5.0		106	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	1.8	mg/l	2.0		111	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	.11	mg/l	.10		110	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
222319	Duplicate	.02	mg/l	.02		100	1136	10/15/92	RJC
221715	Duplicate	11	mg/kg	15		131	1136	10/15/92	RJC
221855	Duplicate	8	mg/kg	7		113	1136	10/15/92	RJC
221864	Duplicate	14	mg/kg	12		115	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	99	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	94	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	92	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	92	1136	10/15/92	RJC
<b>Total Mercury</b>									
	Blank	.001	mg/l				1400	10/02/92	SY
	Standard	.026	mg/l	.025		104	1400	10/02/92	SY
	Standard	.010	mg/l	.010		100	1400	10/02/92	SY
	Standard	.010	mg/l	.010		100	1400	10/02/92	SY
	Standard	.009	mg/l	.010		111	1400	10/02/92	SY
	Standard	.010	mg/l	.010		100	1400	10/02/92	SY
220412	Duplicate	ND	mg/kg	ND		100	1400	10/02/92	SY
220803	Duplicate	ND	mg/kg	ND		100	1400	10/02/92	SY
220412	Spike		mg/l		.010	64	1400	10/02/92	SY
220803	Spike		mg/l		.010	99	1400	10/02/92	SY
<b>Total Nickel</b>									
	Blank	<.05	mg/l				1244	10/14/92	RJC
	Blank	<.05	mg/l				1244	10/14/92	RJC
	Standard	.40	mg/l	.40		100	1244	10/14/92	RJC
	Standard	2.1	mg/l	2.0		105	1244	10/14/92	RJC
	Standard	5.2	mg/l	5.0		104	1244	10/14/92	RJC
	Standard	1.8	mg/l	2.0		111	1244	10/14/92	RJC
	Standard	1.0	mg/l	1.0		100	1244	10/14/92	RJC
	Standard	5.2	mg/l	5.0		104	1244	10/14/92	RJC
	Standard	10	mg/l	10		100	1244	10/14/92	RJC
	Standard	5.5	mg/l	5.0		110	1244	10/14/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1244	10/14/92	RJC

Continued




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221836 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
221715	Duplicate	8.4	mg/kg	9.1		108	1244	10/14/92	RJC
221855	Duplicate	4.6	mg/kg	4.0		114	1244	10/14/92	RJC
222319	Spike		mg/l		2.0	99	1244	10/14/92	RJC
221715	Spike		mg/l		2.0	88	1244	10/14/92	RJC
221855	Spike		mg/l		2.0	92	1244	10/14/92	RJC
<b>Total Lead</b>									
	Blank	<.1	mg/l				1136	10/15/92	RJC
	Blank	<.1	mg/l				1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	2.1	mg/l	2.0		105	1136	10/15/92	RJC
	Standard	5.2	mg/l	5.0		104	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
	Standard	1.8	mg/l	2.0		111	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
	Standard	.62	mg/l	.60		103	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1136	10/15/92	RJC
221715	Duplicate	5	mg/kg	4		122	1136	10/15/92	RJC
221855	Duplicate	2	mg/kg	2		100	1136	10/15/92	RJC
221864	Duplicate	5	mg/kg	4		122	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	95	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	90	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	93	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	89	1136	10/15/92	RJC
<b>Total Zinc</b>									
	Blank	<.01	mg/l				1244	10/14/92	RJC
	Blank	.02	mg/l				1244	10/14/92	RJC
	Standard	.21	mg/l	.20		105	1244	10/14/92	RJC
	Standard	2.0	mg/l	2.0		100	1244	10/14/92	RJC
	Standard	5.2	mg/l	5.0		104	1244	10/14/92	RJC
	Standard	1.8	mg/l	2.0		111	1244	10/14/92	RJC
	Standard	1.1	mg/l	1.0		110	1244	10/14/92	RJC
	Standard	5.3	mg/l	5.0		106	1244	10/14/92	RJC
	Standard	10	mg/l	10		100	1244	10/14/92	RJC
222319	Duplicate	.80	mg/l	.77		104	1244	10/14/92	RJC
221715	Duplicate	14	mg/kg	16		113	1244	10/14/92	RJC
221855	Duplicate	7.3	mg/kg	5.9		121	1244	10/14/92	RJC
222319	Spike		mg/l		2.0	95	1244	10/14/92	RJC
221715	Spike		mg/l		2.0	93	1244	10/14/92	RJC
221855	Spike		mg/l		2.0	95	1244	10/14/92	RJC

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OSC-G01 0.1'-0.5' Outfall  
Collected By: JPJ  
Date & Time Taken: 09/26/92 1200  
Other Data: AFSCAPS Job #5735, Tinker AFB  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 221837 Received: 09/28/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Phenols	ND	mg/kg	1500 10/05/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		2030 10/02/92		EPA Method 420.1	KC
Total Arsenic	2	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Barium	500	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Cadmium	390	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Chromium	800	mg/kg	1136 10/15/92	.2	EPA Method 6010	RJC
Total Mercury	.4	mg/kg	1400 10/02/92	.05	EPA Method 7470	SY
Total Nickel	300	mg/kg	1244 10/14/92	.6	EPA Method 6010	RJC
Total Lead	320	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Zinc	340	mg/kg	1244 10/14/92	.1	EPA Method 6010	RJC
Metals Digestion - 3050 FL	Digested 50/4		0730 10/08/92		EPA Method 3050 FL	JHL
Metals Digestion - 7471	Digested 50/1		0845 10/02/92		EPA Method 7471	JHL

Quality Assurance for the SET with Sample 221837

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
Phenols									
222287	Blank	<.02	mg/l				1500	10/05/92	WMB
	Standard	.050	mg/l	.050		100	1500	10/05/92	WMB
	Duplicate	.02	mg/l	.02		100	1500	10/05/92	WMB
Total Arsenic									
	Blank	<.1	mg/l				1136	10/15/92	RJC

Continued

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221837 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Blank	<.1	mg/l				1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	2.2	mg/l	2.0		110	1136	10/15/92	RJC
	Standard	.99	mg/l	1.0		101	1136	10/15/92	RJC
	Standard	2.0	mg/l	2.0		100	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
	Standard	.7	mg/l	.6		115	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1136	10/15/92	RJC
221715	Duplicate	1	mg/kg	1		100	1136	10/15/92	RJC
221855	Duplicate	5	mg/kg	3		150	1136	10/15/92	RJC
221864	Duplicate	5	mg/kg	5		100	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	109	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	93	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	109	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	89	1136	10/15/92	RJC
<b>Total Barium</b>									
	Blank	.02	mg/l				1136	10/15/92	RJC
	Blank	<.01	mg/l				1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	5.1	mg/l	5.0		102	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	1.7	mg/l	2.0		116	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	2.1	mg/l	2.0		105	1136	10/15/92	RJC
	Standard	10	mg/l	10		100	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
221715	Duplicate	580	mg/kg	560		104	1136	10/15/92	RJC
221855	Duplicate	200	mg/kg	180		111	1136	10/15/92	RJC
221864	Duplicate	22	mg/kg	20		110	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	91	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	110	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	98	1136	10/15/92	RJC
<b>Total Cadmium</b>									
	Blank	<.01	mg/l				1136	10/15/92	RJC
	Blank	<.01	mg/l				1136	10/15/92	RJC
	Standard	.53	mg/l	.50		106	1136	10/15/92	RJC
	Standard	2.2	mg/l	2.0		110	1136	10/15/92	RJC
	Standard	2.6	mg/l	2.5		104	1136	10/15/92	RJC
	Standard	.53	mg/l	.50		106	1136	10/15/92	RJC
	Standard	1.7	mg/l	2.0		116	1136	10/15/92	RJC
	Standard	.54	mg/l	.50		108	1136	10/15/92	RJC
	Standard	.52	mg/l	.50		104	1136	10/15/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1136	10/15/92	RJC
221715	Duplicate	3	mg/kg	3		100	1136	10/15/92	RJC
221855	Duplicate	2	mg/kg	2		100	1136	10/15/92	RJC

Continued



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221837 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
221864	Duplicate	3.3	mg/kg	3.0		110	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	96	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	91	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	89	1136	10/15/92	RJC
221715	Spike		mg/l		2.0	104	1136	10/15/92	RJC
<b>Total Chromium</b>									
	Blank	<.02	mg/l				1136	10/15/92	RJC
	Blank	<.02	mg/l				1136	10/15/92	RJC
	Standard	2.2	mg/l	2.0		110	1136	10/15/92	RJC
	Standard	5.3	mg/l	5.0		106	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	1.8	mg/l	2.0		111	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	.11	mg/l	.10		110	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
222319	Duplicate	.02	mg/l	.02		100	1136	10/15/92	RJC
221715	Duplicate	11	mg/kg	15		131	1136	10/15/92	RJC
221855	Duplicate	8	mg/kg	7		113	1136	10/15/92	RJC
221864	Duplicate	14	mg/kg	12		115	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	99	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	94	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	92	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	92	1136	10/15/92	RJC
<b>Total Mercury</b>									
	Blank	.001	mg/l				1400	10/02/92	SY
	Standard	.026	mg/l	.025		104	1400	10/02/92	SY
	Standard	.010	mg/l	.010		100	1400	10/02/92	SY
	Standard	.010	mg/l	.010		100	1400	10/02/92	SY
	Standard	.009	mg/l	.010		111	1400	10/02/92	SY
	Standard	.010	mg/l	.010		100	1400	10/02/92	SY
220412	Duplicate	ND	mg/kg	ND		100	1400	10/02/92	SY
220803	Duplicate	ND	mg/kg	ND		100	1400	10/02/92	SY
220412	Spike		mg/l		.010	64	1400	10/02/92	SY
220803	Spike		mg/l		.010	99	1400	10/02/92	SY
<b>Total Nickel</b>									
	Blank	<.05	mg/l				1244	10/14/92	RJC
	Blank	<.05	mg/l				1244	10/14/92	RJC
	Standard	.40	mg/l	.40		100	1244	10/14/92	RJC
	Standard	2.1	mg/l	2.0		105	1244	10/14/92	RJC
	Standard	5.2	mg/l	5.0		104	1244	10/14/92	RJC
	Standard	1.8	mg/l	2.0		111	1244	10/14/92	RJC
	Standard	1.0	mg/l	1.0		100	1244	10/14/92	RJC
	Standard	5.2	mg/l	5.0		104	1244	10/14/92	RJC
	Standard	10	mg/l	10		100	1244	10/14/92	RJC
	Standard	5.5	mg/l	5.0		110	1244	10/14/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1244	10/14/92	RJC

Continued

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221837 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
221715	Duplicate	8.4	mg/kg	9.1		108	1244	10/14/92	RJC
221855	Duplicate	4.6	mg/kg	4.0		114	1244	10/14/92	RJC
222319	Spike		mg/l		2.0	99	1244	10/14/92	RJC
221715	Spike		mg/l		2.0	88	1244	10/14/92	RJC
221855	Spike		mg/l		2.0	92	1244	10/14/92	RJC
<b>Total Lead</b>									
	Blank	<.1	mg/l				1136	10/15/92	RJC
	Blank	<.1	mg/l				1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
	Standard	2.1	mg/l	2.0		105	1136	10/15/92	RJC
	Standard	5.2	mg/l	5.0		104	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
	Standard	1.8	mg/l	2.0		111	1136	10/15/92	RJC
	Standard	1.1	mg/l	1.0		110	1136	10/15/92	RJC
	Standard	.62	mg/l	.60		103	1136	10/15/92	RJC
	Standard	1.0	mg/l	1.0		100	1136	10/15/92	RJC
222319	Duplicate	ND	mg/l	ND		100	1136	10/15/92	RJC
221715	Duplicate	5	mg/kg	4		122	1136	10/15/92	RJC
221855	Duplicate	2	mg/kg	2		100	1136	10/15/92	RJC
221864	Duplicate	5	mg/kg	4		122	1136	10/15/92	RJC
222319	Spike		mg/l		2.0	95	1136	10/15/92	RJC
221855	Spike		mg/l		2.0	90	1136	10/15/92	RJC
221864	Spike		mg/l		2.0	93	1136	10/15/92	RJC
221715	Spike		mg/l		5.0	89	1136	10/15/92	RJC
<b>Total Zinc</b>									
	Blank	<.01	mg/l				1244	10/14/92	RJC
	Blank	.02	mg/l				1244	10/14/92	RJC
	Standard	.21	mg/l	.20		105	1244	10/14/92	RJC
	Standard	2.0	mg/l	2.0		100	1244	10/14/92	RJC
	Standard	5.2	mg/l	5.0		104	1244	10/14/92	RJC
	Standard	1.8	mg/l	2.0		111	1244	10/14/92	RJC
	Standard	1.1	mg/l	1.0		110	1244	10/14/92	RJC
	Standard	5.3	mg/l	5.0		106	1244	10/14/92	RJC
	Standard	10	mg/l	10		100	1244	10/14/92	RJC
222319	Duplicate	.80	mg/l	.77		104	1244	10/14/92	RJC
221715	Duplicate	14	mg/kg	16		113	1244	10/14/92	RJC
221855	Duplicate	7.3	mg/kg	5.9		121	1244	10/14/92	RJC
222319	Spike		mg/l		2.0	95	1244	10/14/92	RJC
221715	Spike		mg/l		2.0	93	1244	10/14/92	RJC
221855	Spike		mg/l		2.0	95	1244	10/14/92	RJC

I certify that the results were generated using the above specified methods.

*C. H. Whiteside*  
C.H. Whiteside, Ph.D., President

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## **APPENDIX J**

### **ANALYTICAL RESULTS FROM SOIL SAMPLES FROM LANDFILL NO. 2**



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF2-05-SS1/SS2 5-8.6' Comp  
Collected By: JPJ  
Date & Time Taken: 10/02/92  
Other Data: Tinker AFB, Job # 5735  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222693 Received: 10/07/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1550 10/13/92		EPA Method 3550	DDM
Hydrocarbon Sonication Extract.	Completed		1400 10/08/92		EPA Method 3550 *MOD	JT
Phenols	ND	mg/kg	1700 10/14/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1800 10/13/92		EPA Method 420.1	CRH
Total Arsenic	11	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Barium	790	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Cadmium	77	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	73	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	.09	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	71	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	1400	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	1900	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 Fl	Digested 50/4		0830 10/26/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Acrolein	ND	ug/kg	1134 11/04/92	100	EPA Method 8240	PM

Continued  
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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrylonitrile	ND	ug/kg	1134 11/04/92	100	EPA Method 8240	PM
Aldrin	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	GO
Anthracene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Benzene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Benzidine	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Benzo(a)anthracene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Bromoform	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/kg	1134 11/04/92	10	EPA Method 8240	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Carbon Tetrachloride	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Chlorobenzene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/kg	1134 11/04/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/kg	1134 11/04/92	10	EPA Method 8240	PM
Chloroform	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM

222693 Continued

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Chloromethane	ND	ug/kg	1134 11/04/92	10	EPA Method 8240	PM
2-Chloronaphthalene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Dibromochloromethane	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
1,3-Dichlorobenzene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	1341 11/03/92	670	EPA Method 8270	PM
Bromodichloromethane	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Dichlorodifluoromethane	ND	ug/kg	1134 11/04/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Diethyl phthalate	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Ethyl benzene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Fluoranthene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Methylene Chloride	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Naphthalene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Toluene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
1,2,4-Trichlorobenzene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
1,1,1-Trichloroethane	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
Trichloroethene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM



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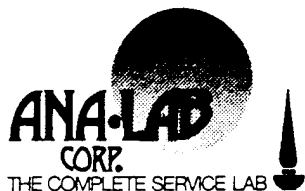
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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Trichlorofluoromethane	ND	ug/kg	1134 11/04/92	10	EPA Method 8240	PM
Vinyl Chloride	ND	ug/kg	1134 11/04/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/kg	1134 11/04/92	5.0	EPA Method 8240	PM
2-Methylnaphthalene	ND	ug/kg	1341 11/03/92	330	EPA Method 8270	PM
Xylenes	ND	ug/kg	1134 11/04/92	10	EPA Method 8240	PM
Total Petroleum Hydrocarbons	160	mg/kg	1500 10/08/92	10	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.

C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF2-06-SS1/SS2 7.5-11.1 Comp

Collected By: JPJ

Date & Time Taken: 10/02/92

Other Data: Tinker AFB, Job # 5735

Bottle Data: 1 -- Unpreserved Plastic/Glass (00)

Lab Sample Number: 222691

Received: 10/07/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2-Methylnaphthalene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Total Sonic Extraction	30->1	g->ml	1514 10/13/92		EPA Method 3550	GE
Hydrocarbon Sonication Extract.	Completed		1400 10/08/92		EPA Method 3550 *MOD	JT
Phenols	ND	mg/kg	1700 10/14/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		2030 10/09/92		EPA Method 420.1	WKC
Total Arsenic	ND	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Barium	300	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Cadmium	13	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	2.2	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	.09	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	71	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	580	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	1000	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 Fl	Digested 50/4		0830 10/26/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Acenaphthylene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO

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311

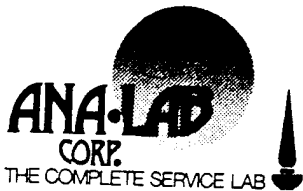
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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrolein	ND	ug/kg	0634 10/31/92	100	EPA Method 8240	PM
Acrylonitrile	ND	ug/kg	0634 10/31/92	100	EPA Method 8240	PM
Aldrin	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Anthracene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	- GO
Benzene	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Benzidine	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Benzo(a)anthracene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Benzo(a)pyrene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Benzo(b)fluoranthene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Benzo(ghi)perylene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Benzo(k)fluoranthene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Bis(2-chloroethyl)ether	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Bis(2-chloroethoxy)methane	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Bis(2-chloroisopropyl)ether	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
4-Bromophenyl phenyl ether	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Bromoform	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/kg	0634 10/31/92	10	EPA Method 8240	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Benzyl butyl phthalate	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Carbon Tetrachloride	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Chlorobenzene	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/kg	0634 10/31/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/kg	0634 10/31/92	10	EPA Method 8240	PM

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11/05/92

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Chloroform	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/kg	0634 10/31/92	10	EPA Method 8240	PM
2-Chloronaphthalene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Chrysene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Dibenzo(a,h)anthracene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Dibromochloromethane	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
1,3-Dichlorobenzene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
1,2-Dichlorobenzene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
1,4-Dichlorobenzene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
3,3'-Dichlorobenzidine	ND	ug/kg	1000 11/03/92	670	EPA Method 8270	GO
Bromodichloromethane	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Dichlorodifluoromethane	ND	ug/kg	0634 10/31/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Diethyl phthalate	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Dimethyl phthalate	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Di-n-butylphthalate	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Di-n-octylphthalate	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
2,4-Dinitrotoluene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
2,6-Dinitrotoluene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO

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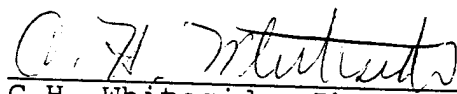
PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
1,2-DPH (as azobenzene)	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Ethyl benzene	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Fluoranthene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Fluorene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Hexachlorobenzene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Hexachlorobutadiene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Hexachlorocyclopentadiene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Hexachloroethane	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Isophorone	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Methylene Chloride	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Naphthalene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Nitrobenzene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
N-nitrosodimethylamine	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
N-Nitrosodi-n-propylamine	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
N-nitrosodiphenylamine	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Phenanthrene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
Pyrene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
1,1,2,2-Tetrachloroethane	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Toluene	53	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
1,2,4-Trichlorobenzene	ND	ug/kg	1000 11/03/92	330	EPA Method 8270	GO
1,1,1-Trichloroethane	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM

222691 Continued

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Trichloroethene	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/kg	0634 10/31/92	10	EPA Method 8240	PM
Vinyl Chloride	ND	ug/kg	0634 10/31/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/kg	0634 10/31/92	5.0	EPA Method 8240	PM
Xylenes	ND	ug/kg	0634 10/31/92	10	EPA Method 8240	PM
Total Petroleum Hydrocarbons	430	mg/kg	1500 10/08/92	10	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF2-07-SS1/SS2 8-11.6' Comp  
Collected By: JPJ  
Date & Time Taken: 10/02/92  
Other Data: Tinker AFB, Job # 5735  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222689 Received: 10/07/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1535 10/13/92		EPA Method 3550	DDM
Hydrocarbon Sonication Extract.	Completed		1400 10/08/92		EPA Method 3550 *MOD	JT
Phenols	ND	mg/kg	1700 10/14/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		2030 10/09/92		EPA Method 420.1	WKC
Total Arsenic	2.6	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Barium	810	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Cadmium	16	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	31	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	.2	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	34	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	300	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	280	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 Fl	Digested 50/4		0830 10/26/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Anthracene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM

Continued  
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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Benzidine	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Benzo(a)anthracene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
2-Chloronaphthalene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
1,3-Dichlorobenzene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	1328 11/04/92	670	EPA Method 8270	PM
Diethyl phthalate	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2,4-Dinitrotoluene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Fluoranthene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Naphthalene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
1,2,4-Trichlorobenzene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
2-Methylnaphthalene	ND	ug/kg	1328 11/04/92	330	EPA Method 8270	PM
Total Petroleum Hydrocarbons	370	mg/kg	1500 10/08/92	10	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.

*C. H. Whiteside*

C.H. Whiteside, Ph.D., President 318



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF2-10-SS2 6-7.6'  
Collected By: JPJ  
Date & Time Taken: 10/02/92  
Other Data: Tinker AFB, Job # 5735  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222688 Received: 10/07/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1525 10/13/92		EPA Method 3550	DDM
Hydrocarbon Sonication Extract.	Completed		1400 10/08/92		EPA Method 3550 *MOD	JT
Phenols	ND	mg/kg	1700 10/14/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1730 10/09/92		EPA Method 420.1	WKC
Total Arsenic	ND	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Barium	1200	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Cadmium	7.7	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	25	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	ND	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	21	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	72	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	67	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 Fl	Digested 50/4		0830 10/26/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Acrolein	ND	ug/kg	1910 11/03/92	100	EPA Method 8240	PM

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrylonitrile	ND	ug/kg	1910 11/03/92	100	EPA Method 8240	PM
Anthracene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Benzene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Benzidine	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Benzo(a)anthracene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Bromoform	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/kg	1910 11/03/92	10	EPA Method 8240	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Carbon Tetrachloride	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Chlorobenzene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/kg	1910 11/03/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/kg	1910 11/03/92	10	EPA Method 8240	PM
Chloroform	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/kg	1910 11/03/92	10	EPA Method 8240	PM



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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2-Chloronaphthalene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Dibromochloromethane	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
1,3-Dichlorobenzene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	1337 11/05/92	670	EPA Method 8270	PM
Bromodichloromethane	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Dichlorodifluoromethane	ND	ug/kg	1910 11/03/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Diethyl phthalate	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Ethyl benzene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Fluoranthene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Methylene Chloride	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Naphthalene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Toluene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
1,2,4-Trichlorobenzene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
1,1,1-Trichloroethane	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Trichloroethene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/kg	1910 11/03/92	10	EPA Method 8240	PM



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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Vinyl Chloride	ND	ug/kg	1910 11/03/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/kg	1910 11/03/92	5.0	EPA Method 8240	PM
2-Methylnaphthalene	ND	ug/kg	1337 11/05/92	330	EPA Method 8270	PM
Xylenes	ND	ug/kg	1910 11/03/92	10	EPA Method 8240	PM
Total Petroleum Hydrocarbons	140	mg/kg	1500 10/08/92	10	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.

C.H. Whiteside, Ph.D., President

## **APPENDIX K**

### **ANALYTICAL RESULTS FROM WATER SAMPLES FROM LANDFILL NO. 2**



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF2-PZA L2-11  
Collected By: JPJ  
Date & Time Taken: 10/06/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 2 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 222872 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Xylenes	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Acrolein	ND	ug/l	1042 10/29/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/l	1042 10/29/92	100	EPA Method 8240	GO
Benzene	168	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Bromoform	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/l	1042 10/29/92	10	EPA Method 8240	GO
Carbon Tetrachloride	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Chlorobenzene	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/l	1042 10/29/92	10	EPA Method 8240	GQ
2-Chloroethylvinyl ether	ND	ug/l	1042 10/29/92	10	EPA Method 8240	GO
Chloroform	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/l	1042 10/29/92	10	EPA Method 8240	GO
Dibromochloromethane	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Bromodichloromethane	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO

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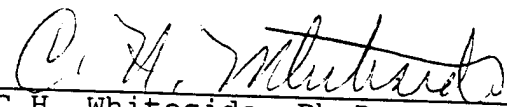
11/05/92

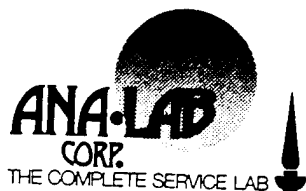
222872 Continued

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,2-Dichloroethene	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Dichlorodifluoromethane	ND	ug/l	1042 10/29/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Ethyl benzene	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Methylene Chloride	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
1,1,2,2-Tetrachloroethane	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Toluene	27	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
1,1,1-Trichloroethane	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/l	1042 10/29/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/l	1042 10/29/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/l	1042 10/29/92	5.0	EPA Method 8240	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF2-PZB L2-11-6  
Collected By: JPJ  
Date & Time Taken: 10/06/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 2 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 222870 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrolein	ND	ug/l	0934 10/29/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/l	0934 10/29/92	100	EPA Method 8240	GO
Benzene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Bromoform	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/l	0934 10/29/92	10	EPA Method 8240	GO
Carbon Tetrachloride	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Chlorobenzene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/l	0934 10/29/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/l	0934 10/29/92	10	EPA Method 8240	GO
Chloroform	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/l	0934 10/29/92	10	EPA Method 8240	GO
Dibromochloromethane	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Bromodichloromethane	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
trans-1,2-Dichloroethene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO

Continued  
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2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations


11/05/92

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Dichlorodifluoromethane	ND	ug/l	0934 10/29/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Ethyl benzene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Methylene Chloride	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
1,1,2,2-Tetrachloroethane	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
1,1,1-Trichloroethane	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/l	0934 10/29/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/l	0934 10/29/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/l	0934 10/29/92	5.0	EPA Method 8240	GO
Xylenes	ND	ug/l	0934 10/29/92	10	EPA Method 8240	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President





2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

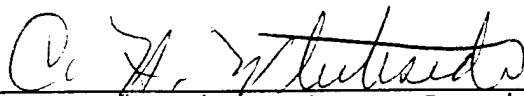
Sample Identification: LF2-PZC L2-11-9  
Collected By: JPJ  
Date & Time Taken: 10/06/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 2 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 222868 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Xylenes	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Acrolein	ND	ug/l	2027 10/29/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/l	2027 10/29/92	100	EPA Method 8240	GO
Benzene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Bromoform	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/l	2027 10/29/92	10	EPA Method 8240	GO
Carbon Tetrachloride	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Chlorobenzene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/l	2027 10/29/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/l	2027 10/29/92	10	EPA Method 8240	GO
Chloroform	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/l	2027 10/29/92	10	EPA Method 8240	GO
Dibromochloromethane	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Bromodichloromethane	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,2-Dichloroethene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Dichlorodifluoromethane	ND	ug/l	2027 10/29/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Ethyl benzene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Methylene Chloride	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
1,1,2,2-Tetrachloroethane	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
1,1,1-Trichloroethane	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/l	2027 10/29/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/l	2027 10/29/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/l	2027 10/29/92	5.0	EPA Method 8240	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF2-PZD L2-11-12  
Collected By: JPJ  
Date & Time Taken: 10/06/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 2 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 222869 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrolein	ND	ug/l	0901 10/29/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/l	0901 10/29/92	100	EPA Method 8240	GO
Benzene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Bromoform	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/l	0901 10/29/92	10	EPA Method 8240	GO
Carbon Tetrachloride	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Chlorobenzene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/l	0901 10/29/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/l	0901 10/29/92	10	EPA Method 8240	GO
Chloroform	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/l	0901 10/29/92	10	EPA Method 8240	GO
Dibromochloromethane	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Bromodichloromethane	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
trans-1,2-Dichloroethene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO

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11/05/92

2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914


Analytical Chemistry • Utility Operations

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Dichlorodiflouromethane	ND	ug/l	0901 10/29/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Ethyl benzene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Methylene Chloride	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
1,1,2,2-Tetrachloroethane	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
1,1,1-Trichloroethane	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/l	0901 10/29/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/l	0901 10/29/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/l	0901 10/29/92	5.0	EPA Method 8240	GO
Xylenes	ND	ug/l	0901 10/29/92	10	EPA Method 8240	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF2-PZE LZ-11-8  
Collected By: JPJ  
Date & Time Taken: 10/06/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 2 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 222871 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Xylenes	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Acrolein	ND	ug/l	1008 10/29/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/l	1008 10/29/92	100	EPA Method 8240	GO
Benzene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Bromoform	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/l	1008 10/29/92	10	EPA Method 8240	GO
Carbon Tetrachloride	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Chlorobenzene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/l	1008 10/29/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/l	1008 10/29/92	10	EPA Method 8240	GO
Chloroform	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/l	1008 10/29/92	10	EPA Method 8240	GO
Dibromochloromethane	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Bromodichloromethane	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO



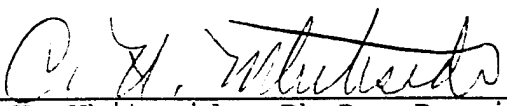
11/05/92

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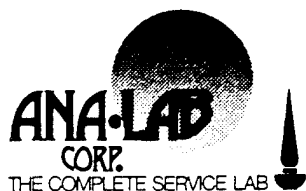
PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,2-Dichloroethene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Dichlorodifluoromethane	ND	ug/l	1008 10/29/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Ethyl benzene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Methylene Chloride	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
1,1,2,2-Tetrachloroethane	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
1,1,1-Trichloroethane	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/l	1008 10/29/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/l	1008 10/29/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/l	1008 10/29/92	5.0	EPA Method 8240	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President

## **APPENDIX L**

### **ANALYTICAL RESULTS FROM SOIL SAMPLES FROM LANDFILL NO. 4**



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF4-05-SS1 3'-4.6'  
Collected By: JPJ  
Date & Time Taken: 10/01/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222860 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->8	g->ml	1350 10/21/92		EPA Method 3550	DDM
Hydrocarbon Sonication Extract.	Completed		1700 10/12/92		EPA Method 3550 *MOD	TEO
Phenols	ND	mg/kg	1650 10/15/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1800 10/13/92		EPA Method 420.1	CRH
Total Arsenic	72	mg/kg	0938 11/05/92	1	EPA Method 6010	G DG
Total Barium	360	mg/kg	0938 11/05/92	.1	EPA Method 6010	G DG
Total Cadmium	47	mg/kg	0938 11/05/92	.1	EPA Method 6010	G DG
Total Chromium	57	mg/kg	0938 11/05/92	.2	EPA Method 6010	G DG
Total Mercury	.2	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	42	mg/kg	0938 11/05/92	.6	EPA Method 6010	G DG
Total Lead	1400	mg/kg	0938 11/05/92	1	EPA Method 6010	G DG
Total Zinc	310	mg/kg	0938 11/05/92	.1	EPA Method 6010	G DG
Metals Digestion - 3050 FL	Digested 50/4		0830 10/26/92		EPA Method 3050 FL	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Acrolein	ND	ug/kg	2017 11/03/92	100	EPA Method 8240	PM

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Analytical Chemistry • Utility Operations

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrylonitrile	ND	ug/kg	2017 11/03/92	100	EPA Method 8240	PM
Anthracene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Benzene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Benzidine	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Benzo(a)anthracene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Bromoform	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/kg	2017 11/03/92	10	EPA Method 8240	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Carbon Tetrachloride	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Chlorobenzene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/kg	2017 11/03/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/kg	2017 11/03/92	10	EPA Method 8240	PM
Chloroform	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/kg	2017 11/03/92	10	EPA Method 8240	PM

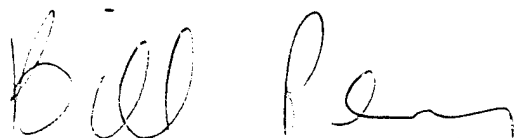
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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2-Chloronaphthalene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Chrysene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Dibromochloromethane	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
1,3-Dichlorobenzene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	1431 11/04/92	5300	EPA Method 8270	PM
Bromodichloromethane	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Dichlorodifluoromethane	ND	ug/kg	2017 11/03/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Diethyl phthalate	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Ethyl benzene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Fluoranthene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Fluorene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Isophorone	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Methylene Chloride	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Naphthalene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Pyrene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Toluene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
1,2,4-Trichlorobenzene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
1,1,1-Trichloroethane	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Trichloroethene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/kg	2017 11/03/92	10	EPA Method 8240	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Vinyl Chloride	ND	ug/kg	2017 11/03/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/kg	2017 11/03/92	5.0	EPA Method 8240	PM
2-Methylnaphthalene	ND	ug/kg	1431 11/04/92	2600	EPA Method 8270	PM
Xylenes	ND	ug/kg	2017 11/03/92	10	EPA Method 8240	PM
Total Petroleum Hydrocarbons	8000	mg/kg	0900 10/13/92	100	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.



C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/06/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF4-05-SS2 6'-7.6'  
Collected By: JPJ  
Date & Time Taken: 10/02/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data:

1 -- Unpreserved Plastic/Glass (00)

Lab Sample Number: 222861

Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Liquid-Liquid Extraction	217->1	ml->ml	1404 10/22/92		EPA Method 3510	GE
TCLP Liq-Liq Extr. W/Hex Exch.	217->2	ml->ml	1435 10/22/92		EPA Method 3510	DDM
TCLP ZHE Volatile Extraction	79.0% Sol	Completed.	1700 10/17/92		EPA Method 1311	LM
TCLP Extraction	Aque/Sol/Ext#1		1533 10/20/92		EPA Method 1311	RJH
Esterification of Sample Extract	Completed.		1400 11/02/92		EPA Method 8150	KB
TCLP Benzene (Reg. Limit 0.5)	ND	mg/l	0229 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP Gamma-BHC (Lindane) (.4)	ND	mg/l	1240 11/02/92	0.00036	EPA Method 8080-TCLP	KB
TCLP Carbon Tetrachloride (.5)	ND	mg/l	0229 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP Chlordane (Reg. Limit 0.03)	ND	mg/l	1240 11/02/92	0.0013	EPA Method 8080-TCLP	KB
TCLP Chlorobenzene (Limit 100)	ND	mg/l	0229 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP Chloroform (Reg. Limit 6.0)	.94	mg/l	0229 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP 1,4 Dichlorobenzene: RL 7.5	ND	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
TCLP 1,2-Dichloroethane (RL .5)	ND	mg/l	0229 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP 1,1-Dichloroethene (.7)	.31	mg/l	0229 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP 2,4-Dinitrotoluene (.13)	ND	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
TCLP Endrin (Reg. Limit 0.02)	ND	mg/l	1240 11/02/92	0.00055	EPA Method 8080-TCLP	KB

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Heptachlor (Limit .008)	ND	mg/l	1240 11/02/92	0.00027	EPA Method 8080-TCLP	KB
TCLP Heptachlor Epoxide (.008)	ND	mg/l	1240 11/02/92	0.0075	EPA Method 8080-TCLP	KB
TCLP Hexachlorobenzene (.13)	ND	mg/l	0340 11/05/92	0.23	EPA Method 8270-TCLP	PM
TCLP Hexachlorobutadiene (.5)	ND	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
TCLP Hexachlorethane (Limit 3)	ND	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
TCLP Nitrobenzene (Limit 2)	ND	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
TCLP Pentachlorophenol (100)	ND	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
TCLP Tetrachloroethylene (.7)	ND	mg/l	0229 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP Toxaphene (Reg. Limit 0.5)	ND	mg/l	1240 11/02/92	0.022	EPA Method 8080-TCLP	KB
TCLP Trichloroethylene (.5)	ND	mg/l	0229 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP 2,4,6-Trichlorophenol (2)	ND	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
TCLP Vinyl Chloride (.2)	ND	mg/l	0229 11/04/92	0.1	EPA Method 8240-TCLP	PM
TCLP 2,4 D (Reg. Limit 10)	ND	mg/l	1530 11/02/92	0.11	EPA Method 8150-TCLP	KB
TCLP 2,4,5-Trichlorophenol (400)	ND	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
TCLP 2,4,5-TP (Silvex) (RL 1)	ND	mg/l	1530 11/02/92	0.015	EPA Method 8150-TCLP	KB
TCLP Cresol (Reg. Limit 1)	1.1	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
TCLP MEK (Reg. Limit 200)	.49	mg/l	0229 11/04/92	0.5	EPA Method 8240-TCLP	PM
TCLP Methoxychlor (RL 10)	ND	mg/l	1240 11/02/92	0.016	EPA Method 8080-TCLP	KB
TCLP Pyridine (Reg. Limit 5)	ND	mg/l	0340 11/05/92	0.045	EPA Method 8270-TCLP	PM
Metals Digestion TCLP 3010	Digested 50/10	a/s	2200 10/29/92		EPA Method 3010	KDC
Metals Digestion - TCLP 7470	Digested 50/10	a/s	0800 10/27/92		EPA Method 7470	BG
TCLP Silver (Reg. Limit 5.0)	ND	mg/l	1104 11/06/92	.01	EPA Method 6010	LW
TCLP Arsenic (Reg. Limit 5.0)	ND	mg/l	1104 11/06/92	.2	EPA Method 6010	LW
TCLP Barium (Reg. Limit 100.0)	ND	mg/l	1104 11/06/92	1.0	EPA Method 6010	LW

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Analytical Chemistry • Utility Operations

11/06/92

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Cadmium (Reg. Limit 1.0)	.14	mg/l	1104 11/06/92	.01	EPA Method 6010	LW
TCLP Chromium (Reg. Limit 5.0)	ND	mg/l	1104 11/06/92	.02	EPA Method 6010	LW
TCLP Mercury (Reg. Limit 0.2)	ND	mg/l	1430 10/28/92	.005	EPA Method 7470	LW
TCLP Lead (Reg. Limit 5.0)	ND	mg/l	1104 11/06/92	.1	EPA Method 6010	LW
TCLP Selenium (Reg. Limit 1.0)	ND	mg/l	1104 11/06/92	.2	EPA Method 6010	LW

Reported results for TCLP analysis are corrected upward to reflect matrix spike recoveries.

I certify that the results were generated using the above specified methods.

C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

**Sample Identification:** LF4-06-SS1/SS2/SS3 2'-9.6' Comp

**Collected By:** JPJ

**Date & Time Taken:** 10/02/92

**Other Data:** AFSCAPS Tinker AFB Job #5735

**Bottle Data:** 1 -- Unpreserved Plastic/Glass (00)

**Lab Sample Number:** 222862 **Received:** 10/09/92

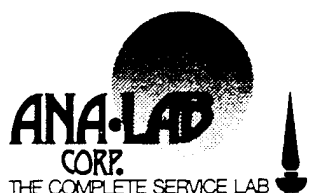
**Client:** ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1355 10/21/92		EPA Method 3550	DDM
Hydrocarbon Sonication Extract.	Completed		1700 10/12/92		EPA Method 3550 *MOD	TEO
Phenols	ND	mg/kg	1650 10/15/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1800 10/13/92		EPA Method 420.1	CRH
Total Arsenic	ND	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Barium	380	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Cadmium	17	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	48	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	.1	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	38	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	340	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	380	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 FL	Digested 50/4		0830 10/26/92		EPA Method 3050 FL	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Acrolein	ND	ug/kg	1549 11/03/92	100	EPA Method 8240	GO

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrylonitrile	ND	ug/kg	1549 11/03/92	100	EPA Method 8240	GO
Anthracene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Benzene	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Benzidine	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Benzo(a)anthracene	3400	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Benzo(a)pyrene	2200	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	830	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	1000	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Bromoform	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/kg	1549 11/03/92	10	EPA Method 8240	GO
4-Chlorophenyl phenyl ether	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Carbon Tetrachloride	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Chlorobenzene	140	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/kg	1549 11/03/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/kg	1549 11/03/92	10	EPA Method 8240	GO
Chloroform	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/kg	1549 11/03/92	10	EPA Method 8240	GO



11/05/92

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2-Chloronaphthalene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Chrysene	5800	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Dibromochloromethane	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
1,3-Dichlorobenzene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	0015 11/05/92	670	EPA Method 8270	PM
Bromodichloromethane	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
trans-1,2-Dichloroethene	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Dichlorodifluoromethane	ND	ug/kg	1549 11/03/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Diethyl phthalate	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Ethyl benzene	80	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Fluoranthene	930	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Methylene Chloride	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Naphthalene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Phenanthrene	2100	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Pyrene	2500	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
1,2,4-Trichlorobenzene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
1,1,1-Trichloroethane	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/kg	1549 11/03/92	10	EPA Method 8240	GO

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Vinyl Chloride	ND	ug/kg	1549 11/03/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
2-Methylnaphthalene	ND	ug/kg	0015 11/05/92	330	EPA Method 8270	PM
Xylenes	150	ug/kg	1549 11/03/92	5.0	EPA Method 8240	GO
Total Petroleum Hydrocarbons	11000	mg/kg	0900 10/13/92	100	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF4-06-SS4 13'-14.6'

Collected By: JPJ

Date & Time Taken: 10/09/92

Other Data: AFSCAPS Tinker AFB Job #5735

Bottle Data: 1 -- Unpreserved Plastic/Glass (00)

Lab Sample Number: 222863 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1811 10/21/92		EPA Method 3550	LM
Total Arsenic	ND	mg/kg	0938 11/05/92		EPA Method 6010	GDG
Total Barium	630	mg/kg	0938 11/05/92		EPA Method 6010	GDG
Total Cadmium	2.4	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	38	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	ND	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	29	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	8.1	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	54	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 FL	Digested 50/4		0830 10/26/92		EPA Method 3050 FL	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acrolein	ND	ug/kg	1622 11/03/92	100	EPA Method 8240	PM
Acrylonitrile	ND	ug/kg	1622 11/03/92	100	EPA Method 8240	PM
Benzene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Bromoform	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/kg	1622 11/03/92	10	EPA Method 8240	PM
Carbon Tetrachloride	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM

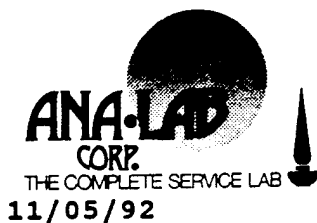
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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Chlorobenzene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/kg	1622 11/03/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/kg	1622 11/03/92	10	EPA Method 8240	PM
Chloroform	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/kg	1622 11/03/92	10	EPA Method 8240	PM
Dibromochloromethane	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Bromodichloromethane	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Dichlorodifluoromethane	ND	ug/kg	1622 11/03/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Ethyl benzene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Methylene Chloride	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Toluene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
1,1,1-Trichloroethane	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Trichloroethene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/kg	1622 11/03/92	10	EPA Method 8240	PM
Vinyl Chloride	ND	ug/kg	1622 11/03/92	10	EPA Method 8240	PM

Continued



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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,3-Dichloropropene	ND	ug/kg	1622 11/03/92	5.0	EPA Method 8240	PM
Xylenes	ND	ug/kg	1622 11/03/92	10	EPA Method 8240	PM

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF4-10-SS1 8'-9.6'  
Collected By: JPJ  
Date & Time Taken: 10/02/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222864 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1814 10/21/92		EPA Method 3550	LM
Hydrocarbon Sonication Extract.	Completed		1700 10/12/92		EPA Method 3550 *MOD	TEO
Phenols	ND	mg/kg	1650 10/15/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1630 10/14/92		EPA Method 420.1	CRH
Total Arsenic	ND	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Barium	640	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Cadmium	25	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	200	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	ND	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	41	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	23	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	40	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 Fl	Digested 50/4		0830 10/26/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Acrolein	ND	ug/kg	1655 11/03/92	100	EPA Method 8240	PM

Continued



PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrylonitrile	ND	ug/kg	1655 11/03/92	100	EPA Method 8240	PM
Anthracene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Benzene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Benzidine	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Benzo(a)anthracene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Bromoform	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/kg	1655 11/03/92	10	EPA Method 8240	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Carbon Tetrachloride	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Chlorobenzene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/kg	1655 11/03/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/kg	1655 11/03/92	10	EPA Method 8240	PM
Chloroform	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/kg	1655 11/03/92	10	EPA Method 8240	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2-Chloronaphthalene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Dibromochloromethane	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
1,3-Dichlorobenzene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	1127 11/04/92	670	EPA Method 8270	PM
Bromodichloromethane	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Dichlorodifluoromethane	ND	ug/kg	1655 11/03/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Diethyl phthalate	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Ethyl benzene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Fluoranthene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Methylene Chloride	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Naphthalene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Toluene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
1,2,4-Trichlorobenzene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
1,1,1-Trichloroethane	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Trichloroethene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/kg	1655 11/03/92	10	EPA Method 8240	PM



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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Vinyl Chloride	ND	ug/kg	1655 11/03/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/kg	1655 11/03/92	5.0	EPA Method 8240	PM
2-Methylnaphthalene	ND	ug/kg	1127 11/04/92	330	EPA Method 8270	PM
Xylenes	ND	ug/kg	1655 11/03/92	10	EPA Method 8240	PM
Total Petroleum Hydrocarbons	54	mg/kg	0900 10/13/92	10	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.

C.H. Whiteside, Ph.D., President

## **APPENDIX M**

### **ANALYTICAL RESULTS FROM WATER SAMPLES FROM LANDFILL NO. 4**



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF4-05-W1 @9'  
Collected By: JPJ  
Date & Time Taken: 10/01/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 2 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 222867 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrolein	ND	ug/l	1953 10/29/92	100	EPA Method 8240	PM
Acrylonitrile	ND	ug/l	1953 10/29/92	100	EPA Method 8240	PM
Benzene	110	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Bromoform	37	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/l	1953 10/29/92	10	EPA Method 8240	PM
Carbon Tetrachloride	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Chlorobenzene	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/l	1953 10/29/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/l	1953 10/29/92	10	EPA Method 8240	PM
Chloroform	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/l	1953 10/29/92	10	EPA Method 8240	PM
Dibromochloromethane	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Bromodichloromethane	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	17	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	21	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	220	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM

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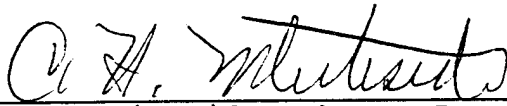
11/05/92

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Dichlorodifluoromethane	ND	ug/l	1953 10/29/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Ethyl benzene	230	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Methylene Chloride	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
1,1,2,2-Tetrachloroethane	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Tetrachloroethene	35	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Toluene	3400	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
1,1,1-Trichloroethane	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Trichloroethene	200	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/l	1953 10/29/92	10	EPA Method 8240	PM
Vinyl Chloride	ND	ug/l	1953 10/29/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/l	1953 10/29/92	5.0	EPA Method 8240	PM
Xylenes	570	ug/l	1953 10/29/92	10	EPA Method 8240	PM

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF4-06-W1 @4'  
Collected By: JPJ  
Date & Time Taken: 10/01/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 1 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 222865 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrolein	ND	ug/l	1844 10/29/92	100	EPA Method 8240	PM
Acrylonitrile	ND	ug/l	1844 10/29/92	100	EPA Method 8240	PM
Benzene	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Bromoform	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/l	1844 10/29/92	10	EPA Method 8240	PM
Carbon Tetrachloride	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Chlorobenzene	50	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/l	1844 10/29/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/l	1844 10/29/92	10	EPA Method 8240	PM
Chloroform	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/l	1844 10/29/92	10	EPA Method 8240	PM
Dibromochloromethane	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Bromodichloromethane	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM

Continued





2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Dichlorodifluoromethane	ND	ug/l	1844 10/29/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Ethyl benzene	110	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Methylene Chloride	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
1,1,2,2-Tetrachloroethane	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Toluene	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
1,1,1-Trichloroethane	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Trichloroethene	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/l	1844 10/29/92	10	EPA Method 8240	PM
Vinyl Chloride	ND	ug/l	1844 10/29/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/l	1844 10/29/92	5.0	EPA Method 8240	PM
Xylenes	170	ug/l	1844 10/29/92	10	EPA Method 8240	PM

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: LF4-06-W2 @15.5'  
Collected By: JPJ  
Date & Time Taken: 10/01/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 2 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 222866 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrolein	ND	ug/l	1919 10/29/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/l	1919 10/29/92	100	EPA Method 8240	GO
Benzene	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Bromoform	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/l	1919 10/29/92	10	EPA Method 8240	GO
Carbon Tetrachloride	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Chlorobenzene	15	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/l	1919 10/29/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/l	1919 10/29/92	10	EPA Method 8240	GO
Chloroform	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/l	1919 10/29/92	10	EPA Method 8240	GO
Dibromochloromethane	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Bromodichloromethane	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
trans-1,2-Dichloroethene	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO

Continued



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Analytical Chemistry • Utility Operations


11/05/92

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Dichlorodifluoromethane	ND	ug/l	1919 10/29/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Ethyl benzene	160	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Methylene Chloride	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
1,1,2,2-Tetrachloroethane	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
1,1,1-Trichloroethane	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/l	1919 10/29/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/l	1919 10/29/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO
Xylenes	ND	ug/l	1919 10/29/92	5.0	EPA Method 8240	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President

## **APPENDIX N**

### **ANALYTICAL RESULTS FROM SOIL SAMPLES FROM OFFBASE (BONNEWELL) AREA**



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OFB-B01-SS1 6'-7'  
Collected By: JPJ  
Date & Time Taken: 09/28/92 1610  
Other Data: AFSCAPS Job # 5735, Tinker AFB  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222091 Received: 09/30/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1259 10/13/92		EPA Method 3550	DDM
Phenols	ND	mg/kg	1445 10/12/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		2030 10/08/92		EPA Method 420.1	WKC
Total Arsenic	2	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Barium	220	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Cadmium	3	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Chromium	16	mg/kg	1136 10/15/92	.2	EPA Method 6010	RJC
Total Mercury	ND	mg/kg	1200 11/05/92	.05	EPA Method 7470	LW
Total Nickel	8.6	mg/kg	1244 10/14/92	.6	EPA Method 6010	RJC
Total Lead	3	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Zinc	15	mg/kg	1244 10/14/92	.1	EPA Method 6010	RJC
Metals Digestion - 3050 Fl	Digested 50/4		0730 10/08/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		2000 11/02/92		EPA Method 7471	KDC
Acenaphthene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Anthracene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Benzidine	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM

Continued

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Benzo(a)anthracene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
2-Chloronaphthalene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
1,3-Dichlorobenzene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	2229 11/02/92	670	EPA Method 8270	PM
Diethyl phthalate	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM



11/05/92

222091 Continued

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2,6-Dinitrotoluene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Fluoranthene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Naphthalene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
1,2,4-Trichlorobenzene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM
2-Methylnaphthalene	ND	ug/kg	2229 11/02/92	330	EPA Method 8270	PM

I certify that the results were generated using the above specified methods.

C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OFB-B01-SS2 9'-10'

Collected By: JPJ

Date & Time Taken: 09/28/92 1630

Other Data: AFSCAPS Job # 5735, Tinker AFB

Bottle Data: 1 -- Unpreserved Plastic/Glass (00)

Lab Sample Number: 222092 Received: 09/30/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2-Methylnaphthalene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Total Sonic Extraction	30->1	g->ml	1323 10/13/92		EPA Method 3550	GE
Phenols	ND	mg/kg	1445 10/12/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		2030 10/08/92		EPA Method 420.1	WKC
Total Arsenic	ND	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Barium	1200	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Cadmium	4	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Chromium	30	mg/kg	1136 10/15/92	.2	EPA Method 6010	RJC
Total Mercury	ND	mg/kg	1200 11/05/92	.05	EPA Method 7470	LW
Total Nickel	23	mg/kg	1244 10/14/92	.6	EPA Method 6010	RJC
Total Lead	3	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Zinc	28	mg/kg	1244 10/14/92	.1	EPA Method 6010	RJC
Metals Digestion - 3050 Fl	Digested 50/4		0730 10/08/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		2000 11/02/92		EPA Method 7471	KDC
Acenaphthene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Acenaphthylene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Aldrin	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO

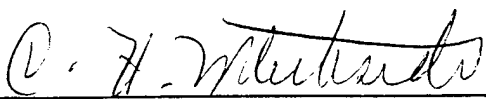
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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Anthracene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Benzidine	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Benzo(a)anthracene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Benzo(a)pyrene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Benzo(b)fluoranthene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Benzo(ghi)perylene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Benzo(k)fluoranthene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Bis(2-chloroethyl)ether	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Bis(2-chloroethoxy)methane	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Bis(2-chloroisopropyl)ether	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
4-Bromophenyl phenyl ether	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
4-Chlorophenyl phenyl ether	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Benzyl butyl phthalate	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
2-Chloronaphthalene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Chrysene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Dibenzo(a,h)anthracene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
1,3-Dichlorobenzene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
1,2-Dichlorobenzene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
1,4-Dichlorobenzene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
3,3'-Dichlorobenzidine	ND	ug/kg	1435 11/03/92	670	EPA Method 8270	GO
Diethyl phthalate	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Dimethyl phthalate	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Di-n-butylphthalate	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Di-n-octylphthalate	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
2,4-Dinitrotoluene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
2,6-Dinitrotoluene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
1,2-DPH (as azobenzene)	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Fluoranthene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Fluorene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Hexachlorobenzene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Hexachlorobutadiene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Hexachlorocyclopentadiene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Hexachloroethane	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Isophorone	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Naphthalene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Nitrobenzene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
N-nitrosodimethylamine	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
N-Nitrosodi-n-propylamine	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
N-nitrosodiphenylamine	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Phenanthrene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
Pyrene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO
1,2,4-Trichlorobenzene	ND	ug/kg	1435 11/03/92	330	EPA Method 8270	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OFB-B01-SS3 16'-17'  
Collected By: JPJ  
Date & Time Taken: 09/28/92 1640  
Other Data: AFSCAPS Job # 5735, Tinker AFB  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
1 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)

Lab Sample Number: 222093 Received: 09/30/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1344 10/13/92		EPA Method 3550	GE
Phenols	ND	mg/kg	1445 10/12/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1800 10/07/92		EPA Method 420.1	WKC
Total Arsenic	13	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Barium	74	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Cadmium	5	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Chromium	23	mg/kg	1136 10/15/92	.2	EPA Method 6010	RJC
Total Mercury	ND	mg/kg	1200 11/05/92	.05	EPA Method 7470	LW
Total Nickel	19	mg/kg	1244 10/14/92	.6	EPA Method 6010	RJC
Total Lead	3	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Zinc	29	mg/kg	1244 10/14/92	.1	EPA Method 6010	RJC
Metals Digestion - 3050 Fl	Digested 50/4		0730 10/08/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		2000 11/02/92		EPA Method 7471	KDC
Acenaphthene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Acrolein	ND	ug/kg	0058 10/31/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/kg	0058 10/31/92	100	EPA Method 8240	GO



11/05/92

222093 Continued

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Anthracene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Benzene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Benzidine	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
* Benzo(a)anthracene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Bromoform	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/kg	0058 10/31/92	10	EPA Method 8240	GO
4-Chlorophenyl phenyl ether	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Carbon Tetrachloride	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Chlorobenzene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/kg	0058 10/31/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/kg	0058 10/31/92	10	EPA Method 8240	GO
Chloroform	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/kg	0058 10/31/92	10	EPA Method 8240	GO
2-Chloronaphthalene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Chrysene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Dibromochloromethane	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
1,3-Dichlorobenzene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	1233 11/04/92	670	EPA Method 8270	PM
Bromodichloromethane	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
trans-1,2-Dichloroethene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Dichlorodifluoromethane	ND	ug/kg	0058 10/31/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Diethyl phthalate	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Ethyl benzene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Fluoranthene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM

Continued


PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Fluorene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Methylene Chloride	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Naphthalene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
1,2,4-Trichlorobenzene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
1,1,1-Trichloroethane	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/kg	0058 10/31/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/kg	0058 10/31/92	10	EPA Method 8240	GO

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,3-Dichloropropene	ND	ug/kg	0058 10/31/92	5.0	EPA Method 8240	GO
2-Methylnaphthalene	ND	ug/kg	1233 11/04/92	330	EPA Method 8270	PM
Xylenes	ND	ug/kg	0132 10/31/92	10	EPA Method 8240	PM

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OFB-B01-SS4 21'-22'  
Collected By: JPJ  
Date & Time Taken: 09/28/92 1715  
Other Data: AFSCAPS Job # 5735, Tinker AFB  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222094 Received: 09/30/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1328 10/13/92		EPA Method 3550	GE
Phenols	ND	mg/kg	1445 10/12/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1800 10/07/92		EPA Method 420.1	WKC
Total Arsenic	1	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Barium	16	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Cadmium	1	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Chromium	8	mg/kg	1136 10/15/92	.2	EPA Method 6010	RJC
Total Mercury	ND	mg/kg	1200 11/05/92	.05	EPA Method 7470	LW
Total Nickel	5.8	mg/kg	1244 10/14/92	.6	EPA Method 6010	RJC
Total Lead	ND	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Zinc	8.1	mg/kg	1244 10/14/92	.1	EPA Method 6010	RJC
Metals Digestion - 3050 Fl	Digested 50/4		0730 10/08/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		2000 11/02/92		EPA Method 7471	KDC
Acenaphthene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Anthracene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Benzidine	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM



PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Benzo(a)anthracene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
2-Chloronaphthalene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
1,3-Dichlorobenzene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	0059 11/05/92	670	EPA Method 8270	PM
Diethyl phthalate	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM



THE COMPLETE SERVICE LAB  
11/05/92

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Analytical Chemistry • Utility Operations

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2,6-Dinitrotoluene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Fluoranthene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Naphthalene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
1,2,4-Trichlorobenzene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM
2-Methylnaphthalene	ND	ug/kg	0059 11/05/92	330	EPA Method 8270	PM

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OFB-B02-SS2 11'-12'  
Collected By: JPJ  
Date & Time Taken: 09/28/92 1800  
Other Data: AFSCAPS Job # 5735, Tinker AFB  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222095 Received: 09/30/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1340 10/13/92		EPA Method 3550	GE
Phenols	ND	mg/kg	1700 10/14/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		2100 10/07/92		EPA Method 420.1	WKC
Total Arsenic	3	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Barium	290	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Cadmium	5.3	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Chromium	19	mg/kg	1136 10/15/92	.2	EPA Method 6010	RJC
Total Mercury	ND	mg/kg	1200 11/05/92	.05	EPA Method 7470	LW
Total Nickel	14	mg/kg	1244 10/14/92	.6	EPA Method 6010	RJC
Total Lead	6.4	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Zinc	21	mg/kg	1244 10/14/92	.1	EPA Method 6010	RJC
Metals Digestion - 3050 Fl	Digested 50/4		0730 10/08/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		2000 11/02/92		EPA Method 7471	KDC
Acenaphthene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Anthracene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Benzidine	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM

Continued

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Benzo(a)anthracene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
2-Chloronaphthalene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
1,3-Dichlorobenzene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	1631 11/03/92	670	EPA Method 8270	PM
Diethyl phthalate	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM



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Analytical Chemistry • Utility Operations


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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2,6-Dinitrotoluene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Fluoranthene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Naphthalene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
1,2,4-Trichlorobenzene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM
2-Methylnaphthalene	ND	ug/kg	1631 11/03/92	330	EPA Method 8270	PM

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OFB-B02-SS4 22'-23'  
Collected By: JPJ  
Date & Time Taken: 09/28/92 1830  
Other Data: AFSCAPS Job # 5735, Tinker AFB  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
1 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)

Lab Sample Number: 222097 Received: 09/30/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1508 10/13/92		EPA Method 3550	GE
Phenols	ND	mg/kg	1700 10/14/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1730 10/09/92		EPA Method 420.1	WKC
Total Arsenic	ND	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Barium	51	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Cadmium	3	mg/kg	1136 10/15/92	.1	EPA Method 6010	RJC
Total Chromium	12	mg/kg	1136 10/15/92	.2	EPA Method 6010	RJC
Total Mercury	ND	mg/kg	1200 11/05/92	.05	EPA Method 7470	LW
Total Nickel	10	mg/kg	1244 10/14/92	.6	EPA Method 6010	RJC
Total Lead	2	mg/kg	1136 10/15/92	1	EPA Method 6010	RJC
Total Zinc	13	mg/kg	1244 10/14/92	.1	EPA Method 6010	RJC
Metals Digestion - 3050 FL	Digested 50/4		0730 10/08/92		EPA Method 3050 FL	JHL
Metals Digestion - 7471	Digested 50/1		2000 11/02/92		EPA Method 7471	KDC
Acenaphthene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Acrolein	ND	ug/kg	1100 10/31/92	100	EPA Method 8240	WJP
Acrylonitrile	ND	ug/kg	1100 10/31/92	100	EPA Method 8240	WJP

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Anthracene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Benzene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Benzidine	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Benzo(a)anthracene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM*
Benzo(a)pyrene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Bromoform	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Bromomethane	ND	ug/kg	1100 10/31/92	10	EPA Method 8240	WJP
4-Chlorophenyl phenyl ether	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Carbon Tetrachloride	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Chlorobenzene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Chloroethane	ND	ug/kg	1100 10/31/92	10	EPA Method 8240	WJP
2-Chloroethylvinyl ether	ND	ug/kg	1100 10/31/92	10	EPA Method 8240	WJP
Chloroform	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Chloromethane	ND	ug/kg	1100 10/31/92	10	EPA Method 8240	WJP
2-Chloronaphthalene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM



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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Chrysene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Dibromochloromethane	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
1,3-Dichlorobenzene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	0838 11/04/92	670	EPA Method 8270	PM
Bromodichloromethane	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
1,1-Dichloroethane	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
1,2-Dichloroethane	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
1,1-Dichloroethene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
trans-1,2-Dichloroethene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Dichlorodifluoromethane	ND	ug/kg	1100 10/31/92	1.0	EPA Method 8240	WJP
1,2-Dichloropropane	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
cis-1,3-Dichloropropene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Diethyl phthalate	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Ethyl benzene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Fluoranthene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM





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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Fluorene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Methylene Chloride	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Naphthalene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Tetrachloroethene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Toluene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
1,2,4-Trichlorobenzene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
1,1,1-Trichloroethane	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
1,1,2-Trichloroethane	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Trichloroethene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
Trichlorofluoromethane	ND	ug/kg	1100 10/31/92	10	EPA Method 8240	WJP
Vinyl Chloride	ND	ug/kg	1100 10/31/92	10	EPA Method 8240	WJP

Continued

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,3-Dichloropropene	ND	ug/kg	1100 10/31/92	5.0	EPA Method 8240	WJP
2-Methylnaphthalene	ND	ug/kg	0838 11/04/92	330	EPA Method 8270	PM
Xylenes	ND	ug/kg	1100 10/31/92	10	EPA Method 8240	WJP

I certify that the results were generated using the above specified methods.

C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

*Analytical Chemistry • Utility Operations*

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

**Sample Identification:** OFB-03-SS1 5-6.7'

**Collected By:** JPJ

**Date & Time Taken:** 10/03/92

**Other Data:** Tinker AFB, Job # 5735

**Bottle Data:** 1 -- Unpreserved Plastic/Glass (00)

**Lab Sample Number:** 222683 **Received:** 10/07/92

**Client:** ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1518 10/13/92		EPA Method 3550	GE
Hydrocarbon Sonication Extract.	Completed		1330 10/09/92		EPA Method 3550 *MOD	JT
Phenols	ND	mg/kg	1700 10/14/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1730 10/09/92		EPA Method 420.1	WKC
Total Arsenic	1	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Barium	240	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Cadmium	1.5	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	23	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	ND	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	14	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	3.2	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	20	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 FL	Digested 50/4	A/B/S	0830 10/26/92		EPA Method 3050 FL	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Acrolein	ND	ug/kg	1726 10/31/92	100	EPA Method 8240	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrylonitrile	ND	ug/kg	1726 10/31/92	100	EPA Method 8240	PM
Anthracene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Benzene	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Benzidine	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Benzo(a)anthracene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Bromoform	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/kg	1726 10/31/92	10	EPA Method 8240	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Carbon Tetrachloride	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Chlorobenzene	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/kg	1726 10/31/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/kg	1726 10/31/92	10	EPA Method 8240	PM
Chloroform	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/kg	1726 10/31/92	10	EPA Method 8240	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2-Chloronaphthalene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Dibromochloromethane	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
1,3-Dichlorobenzene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	2040 10/30/92	670	EPA Method 8270	PM
Bromodichloromethane	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Dichlorodifluoromethane	ND	ug/kg	1726 10/31/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Diethyl phthalate	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Ethyl benzene	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM


PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Fluoranthene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Methylene Chloride	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Naphthalene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Toluene	34	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
1,2,4-Trichlorobenzene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
1,1,1-Trichloroethane	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Trichloroethene	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/kg	1726 10/31/92	10	EPA Method 8240	PM

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Vinyl Chloride	ND	ug/kg	1726 10/31/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/kg	1726 10/31/92	5.0	EPA Method 8240	PM
2-Methylnaphthalene	ND	ug/kg	2040 10/30/92	330	EPA Method 8270	PM
Xylenes	16	ug/kg	1726 10/31/92	10	EPA Method 8240	PM
Total Petroleum Hydrocarbons	56	mg/kg	1200 10/10/92	10	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: OFB-04-SS1 4.0-5.6'  
Collected By: JPJ  
Date & Time Taken: 10/03/92  
Other Data: Tinker AFB, Job # 5735  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222687 Received: 10/07/92

Client: ARS1


PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1540 10/13/92		EPA Method 3550	DDM
Hydrocarbon Sonication Extract.	Completed		1330 10/09/92		EPA Method 3550 *MOD	JT
Phenols	ND	mg/kg	1700 10/14/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1800 10/13/92		EPA Method 420.1	CRH
Total Arsenic	ND	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Barium	130	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Cadmium	.98	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	16	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	ND	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	8.5	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	8.4	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	22	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 Fl	Digested 50/4		0830 10/26/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Anthracene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM



PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Benzidine	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Benzo(a)anthracene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
2-Chloronaphthalene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
1,3-Dichlorobenzene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	2127 11/02/92	670	EPA Method 8270	PM
Diethyl phthalate	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2,4-Dinitrotoluene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Fluoranthene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Naphthalene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
1,2,4-Trichlorobenzene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
2-Methylnaphthalene	ND	ug/kg	2127 11/02/92	330	EPA Method 8270	PM
Total Petroleum Hydrocarbons	19	mg/kg	1200 10/10/92	10	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

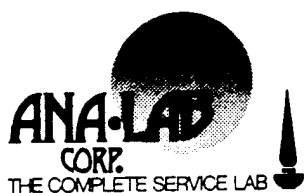
Sample Identification: OFB-04-SS2 5.6-7.4'  
Collected By: JPJ  
Date & Time Taken: 10/03/92  
Other Data: Tinker AFB, Job # 5735  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222686 Received: 10/07/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Total Sonic Extraction	30->1	g->ml	1458 10/13/92		EPA Method 3550	GE
Hydrocarbon Sonication Extract.	Completed		1330 10/09/92		EPA Method 3550 *MOD	JT
Phenols	ND	mg/kg	1700 10/14/92	5	EPA Method 420.1	WMB
Phenol Distillation	DISTILLED		1730 10/09/92		EPA Method 420.1	WKC
Total Arsenic	ND	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Barium	140	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Cadmium	1.6	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Total Chromium	16	mg/kg	0938 11/05/92	.2	EPA Method 6010	GDG
Total Mercury	ND	mg/kg	1330 10/15/92	.001	EPA Method 7470	LW
Total Nickel	7.4	mg/kg	0938 11/05/92	.6	EPA Method 6010	GDG
Total Lead	2.0	mg/kg	0938 11/05/92	1	EPA Method 6010	GDG
Total Zinc	12	mg/kg	0938 11/05/92	.1	EPA Method 6010	GDG
Metals Digestion - 3050 Fl	Digested 50/4	A/B/S	0830 10/26/92		EPA Method 3050 Fl	JHL
Metals Digestion - 7471	Digested 50/1		1600 10/14/92		EPA Method 7471	BWP
Acenaphthene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Acenaphthylene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Acrolein	ND	ug/kg	0601 10/31/92	100	EPA Method 8240	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Acrylonitrile	ND	ug/kg	0601 10/31/92	100	EPA Method 8240	PM
Anthracene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Benzene	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Benzidine	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Benzo(a)anthracene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Benzo(a)pyrene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Benzo(b)fluoranthene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Benzo(ghi)perylene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Benzo(k)fluoranthene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Bis(2-chloroethyl)ether	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Bis(2-chloroethoxy)methane	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Bis(2-chloroisopropyl)ether	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
4-Bromophenyl phenyl ether	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Bis(2-ethylhexyl)phthalate	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Bromoform	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/kg	0601 10/31/92	10	EPA Method 8240	PM
4-Chlorophenyl phenyl ether	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Benzyl butyl phthalate	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Carbon Tetrachloride	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Chlorobenzene	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/kg	0601 10/31/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/kg	0601 10/31/92	10	EPA Method 8240	PM
Chloroform	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/kg	0601 10/31/92	10	EPA Method 8240	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
2-Chloronaphthalene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Chrysene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Dibenzo(a,h)anthracene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Dibromochloromethane	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
1,3-Dichlorobenzene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
1,2-Dichlorobenzene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
1,4-Dichlorobenzene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
3,3'-Dichlorobenzidine	ND	ug/kg	1539 11/03/92	670	EPA Method 8270	PM
Bromodichloromethane	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
trans-1,2-Dichloroethene	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Dichlorodifluoromethane	ND	ug/kg	0601 10/31/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Diethyl phthalate	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Dimethyl phthalate	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Di-n-butylphthalate	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Di-n-octylphthalate	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
2,4-Dinitrotoluene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
2,6-Dinitrotoluene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
1,2-DPH (as azobenzene)	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Ethyl benzene	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM



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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Fluoranthene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Fluorene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Hexachlorobenzene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Hexachlorobutadiene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Hexachlorocyclopentadiene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Hexachloroethane	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Indeno(1,2,3-cd)pyrene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Isophorone	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Methylene Chloride	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Naphthalene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Nitrobenzene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
N-nitrosodimethylamine	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
N-Nitrosodi-n-propylamine	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
N-nitrosodiphenylamine	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Phenanthrene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Pyrene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
1,1,2,2-Tetrachloroethane	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Toluene	17	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
1,2,4-Trichlorobenzene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
1,1,1-Trichloroethane	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Trichloroethene	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/kg	0601 10/31/92	10	EPA Method 8240	PM

Continued  
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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Vinyl Chloride	ND	ug/kg	0601 10/31/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/kg	0601 10/31/92	5.0	EPA Method 8240	PM
2-Methylnaphthalene	ND	ug/kg	1539 11/03/92	330	EPA Method 8270	PM
Xylenes	ND	ug/kg	0601 10/31/92	10	EPA Method 8240	PM
Total Petroleum Hydrocarbons	29	mg/kg	1200 10/10/92	10	EPA Method 418.1	TEO

I certify that the results were generated using the above specified methods.

C.H. Whiteside, Ph.D., President

## **APPENDIX O**

### **TCLP ANALYSES OF COMPOSITED FROM SAMPLES AND FRAC TANK RINSATE**





2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/06/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

**Sample Identification:** DSW-1 FPA Comp Dr 1,3,8  
**Collected By:** JPJ  
**Date & Time Taken:** 10/06/92 1718  
**Other Data:** Tinker AFB, Job # 5735  
**Bottle Data:** 1 -- Unpreserved Plastic/Glass (00)  
**Lab Sample Number:** 222697 **Received:** 10/07/92

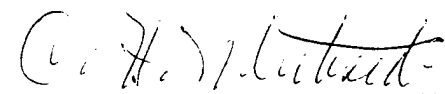
**Client:** ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Liquid-Liquid Extraction	1000->1	ml->ml	1250 11/02/92		EPA Method 3510	GE
TCLP ZHE Volatile Extraction	100.0% Sol	Completed.	1500 10/14/92		EPA Method 1311	LM
TCLP Extraction	Solid/Ext#1		1625 10/20/92		EPA Method 1311	RJH
Hydrocarbon Sonication Extract.	Completed		1130 10/10/92		EPA Method 3550 *MOD	TEO
TCLP Benzene (Reg. Limit 0.5)	ND	mg/l	2121 11/02/92	0.005	EPA Method 8240-TCLP	PM
TCLP Carbon Tetrachloride (.5)	ND	mg/l	2121 11/02/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chlorobenzene (Limit 100)	ND	mg/l	2121 11/02/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chloroform (Reg. Limit 6.0)	ND	mg/l	2121 11/02/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,4 Dichlorobenzene: RL 7.5	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM
TCLP 1,2-Dichloroethane (RL .5)	ND	mg/l	2121 11/02/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,1-Dichloroethene (.7)	ND	mg/l	2121 11/02/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4-Dinitrotoluene (.13)	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorobenzene (.13)	ND	mg/l	1159 11/06/92	0.05	EPA Method 8270-TCLP	PM
TCLP Hexachlorobutadiene (.5)	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorethane (Limit 3)	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM
TCLP Nitrobenzene (Limit 2)	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM
TCLP Pentachlorophenol (100)	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Tetrachloroethylene (.7)	ND	mg/l	2121 11/02/92	0.005	EPA Method 8240-TCLP	PM
TCLP Trichloroethylene (.5)	ND	mg/l	2121 11/02/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4,6-Trichlorophenol (2)	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM
TCLP Vinyl Chloride (.2)	ND	mg/l	2121 11/02/92	0.01	EPA Method 8240-TCLP	PM
TCLP 2,4,5-Trichlorophenol (400)	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM
TCLP Cresol (Reg. Limit 1)	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM
TCLP MEK (Reg. Limit 200)	ND	mg/l	2121 11/02/92	0.05	EPA Method 8240-TCLP	PM
TCLP Pyridine (Reg. Limit 5)	ND	mg/l	1159 11/06/92	0.01	EPA Method 8270-TCLP	PM
Total Petroleum Hydrocarbons	860	mg/kg	1200 10/10/92	10	EPA Method 418.1	TEO
Metals Digestion TCLP 3010	Digested	a/b/s	2200 10/22/92		EPA Method 3010	KDC
Metals Digestion - TCLP 7470	Digested	A/B/S	2200 10/23/92		EPA Method 7470	KDC
TCLP Silver (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Arsenic (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.2	EPA Method 6010	GDG
TCLP Barium (Reg. Limit 100.0)	1.7	mg/l	1749 10/26/92	1.0	EPA Method 6010	GDG
TCLP Cadmium (Reg. Limit 1.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Chromium (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.02	EPA Method 6010	GDG
TCLP Mercury (Reg. Limit 0.2)	ND	mg/l	1515 11/06/92	.05	EPA Method 7470	RJC
TCLP Lead (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.1	EPA Method 6010	GDG
TCLP Selenium (Reg. Limit 1.0)	ND	mg/l	0926 10/27/92	.2	EPA Method 6010	RJC

Reported results for TCLP analysis are corrected upward to reflect matrix spike recoveries.

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/06/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

**Sample Identification:** DSW-2 WTP/OSC Comp Dr 1,5,6

**Collected By:** JPJ

**Date & Time Taken:** 10/06/92 1725

**Other Data:** Tinker AFB, Job # 5735

**Bottle Data:** 1 -- Unpreserved Plastic/Glass (00)

**Lab Sample Number:** 222699 **Received:** 10/07/92


**Client:** ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Liquid-Liquid Extraction	1000->1	ml->ml	1530 10/22/92		EPA Method 3510	GE
TCLP ZHE Volatile Extraction	100.0% Sol	Completed.	1430 10/15/92		EPA Method 1311	LM
TCLP Extraction	Solid/Ext#1		1615 10/20/92		EPA Method 1311	RJH
Hydrocarbon Sonication Extract.	Completed		1130 10/10/92		EPA Method 3550 *MOD	TEO
TCLP Benzene (Reg. Limit 0.5)	.019	mg/l	1802 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP Carbon Tetrachloride (.5)	ND	mg/l	1802 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chlorobenzene (Limit 100)	ND	mg/l	1802 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chloroform (Reg. Limit 6.0)	ND	mg/l	1802 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,4 Dichlorobenzene: RL 7.5	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP 1,2-Dichloroethane (RL .5)	ND	mg/l	1802 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,1-Dichloroethene (.7)	ND	mg/l	1802 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4-Dinitrotoluene (.13)	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorobenzene (.13)	ND	mg/l	2345 11/05/92	0.05	EPA Method 8270-TCLP	PM
TCLP Hexachlorobutadiene (.5)	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorethane (Limit 3)	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Nitrobenzene (Limit 2)	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Pentachlorophenol (100)	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Tetrachloroethylene (.7)	ND	mg/l	1802 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP Trichloroethylene (.5)	ND	mg/l	1802 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4,6-Trichlorophenol (2)	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Vinyl Chloride (.2)	ND	mg/l	1802 11/03/92	0.01	EPA Method 8240-TCLP	PM
TCLP 2,4,5-Trichlorophenol (400)	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Cresol (Reg. Limit 1)	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP MEK (Reg. Limit 200)	ND	mg/l	1802 11/03/92	0.05	EPA Method 8240-TCLP	PM
TCLP Pyridine (Reg. Limit 5)	ND	mg/l	2345 11/05/92	0.01	EPA Method 8270-TCLP	PM
Total Petroleum Hydrocarbons	120	mg/kg	1200 10/10/92	10	EPA Method 418.1	TEO
Metals Digestion TCLP 3010	Digested	a/s	2200 10/22/92		EPA Method 3010	KDC
Metals Digestion - TCLP 7470	Digested	A/S	2200 10/23/92		EPA Method 7470	KDC
TCLP Silver (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Arsenic (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.2	EPA Method 6010	GDG
TCLP Barium (Reg. Limit 100.0)	5.0	mg/l	1749 10/26/92	1.0	EPA Method 6010	GDG
TCLP Cadmium (Reg. Limit 1.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Chromium (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.02	EPA Method 6010	GDG
TCLP Mercury (Reg. Limit 0.2)	.03	mg/l	1515 11/06/92	.001	EPA Method 7470	RJC
TCLP Lead (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.1	EPA Method 6010	GDG
TCLP Selenium (Reg. Limit 1.0)	ND	mg/l	0926 10/27/92	.2	EPA Method 6010	RJC

Reported results for TCLP analysis are corrected upward to reflect matrix spike recoveries.

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/06/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

**Sample Identification:** DSW-3 WTP/OSC Drum 5  
**Collected By:** JPJ  
**Date & Time Taken:** 10/06/92 1725  
**Other Data:** Tinker AFB, Job # 5735  
**Bottle Data:** 1 -- Unpreserved Plastic/Glass (00)  
**Lab Sample Number:** 222701 **Received:** 10/07/92


**Client:** ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Liquid-Liquid Extraction	1000->1	ml->ml	1510 10/22/92		EPA Method 3510	GE
TCLP ZHE Volatile Extraction	100.0% Sol	Completed.	1430 10/16/92		EPA Method 1311	LM
TCLP Extraction	Solid/Ext#1		1540 10/20/92		EPA Method 1311	RJH
Hydrocarbon Sonication Extract.	Completed		1130 10/10/92		EPA Method 3550 *MOD	TEO
TCLP Benzene (Reg. Limit 0.5)	ND	mg/l	2305 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP Carbon Tetrachloride (.5)	ND	mg/l	2305 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chlorobenzene (Limit 100)	ND	mg/l	2305 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chloroform (Reg. Limit 6.0)	ND	mg/l	2305 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,4 Dichlorobenzene: RL 7.5	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP 1,2-Dichloroethane (RL .5)	ND	mg/l	2305 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,1-Dichloroethene (.7)	.007	mg/l	2305 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4-Dinitrotoluene (.13)	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorobenzene (.13)	ND	mg/l	2254 11/05/92	0.05	EPA Method 8270-TCLP	PM
TCLP Hexachlorobutadiene (.5)	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorethane (Limit 3)	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Nitrobenzene (Limit 2)	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Pentachlorophenol (100)	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Tetrachloroethylene (.7)	ND	mg/l	2305 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP Trichloroethylene (.5)	ND	mg/l	2305 11/03/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4,6-Trichlorophenol (2)	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Vinyl Chloride (.2)	ND	mg/l	2305 11/03/92	0.01	EPA Method 8240-TCLP	PM
TCLP 2,4,5-Trichlorophenol (400)	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Cresol (Reg. Limit 1)	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP MEK (Reg. Limit 200)	ND	mg/l	2305 11/03/92	0.05	EPA Method 8240-TCLP	PM
TCLP Pyridine (Reg. Limit 5)	ND	mg/l	2254 11/05/92	0.01	EPA Method 8270-TCLP	PM
Total Petroleum Hydrocarbons	83	mg/kg	1200 10/10/92	10	EPA Method 418.1	TEO
Metals Digestion TCLP 3010	Digested	a/s	2200 10/22/92		EPA Method 3010	KDC
Metals Digestion - TCLP 7470	Digested	A/S	2200 10/23/92		EPA Method 7470	KDC
TCLP Silver (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Arsenic (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.2	EPA Method 6010	GDG
TCLP Barium (Reg. Limit 100.0)	3.2	mg/l	1749 10/26/92	1.0	EPA Method 6010	GDG
TCLP Cadmium (Reg. Limit 1.0)	.01	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Chromium (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.02	EPA Method 6010	GDG
TCLP Mercury (Reg. Limit 0.2)	ND	mg/l	1515 11/06/92	.001	EPA Method 7470	RJC
TCLP Lead (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.1	EPA Method 6010	GDG
TCLP Selenium (Reg. Limit 1.0)	ND	mg/l	0926 10/27/92	.2	EPA Method 6010	RJC

Reported results for TCLP analysis are corrected upward to reflect matrix spike recoveries.

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/06/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: DSW-4 FTA Comp Dr 1,2  
Collected By: JPJ  
Date & Time Taken: 10/06/92 1730  
Other Data: Tinker AFB, Job # 5735  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222702 Received: 10/07/92

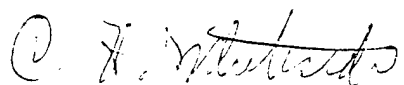
Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Liquid-Liquid Extraction	1000->1	ml->ml	2112 10/23/92		EPA Method 3510	LM
TCLP ZHE Volatile Extraction	100.0% Sol	Completed.	1430 10/16/92		EPA Method 1311	LM
TCLP Extraction	Solid/Ext#1		1525 10/21/92		EPA Method 1311	LD
Hydrocarbon Sonication Extract.	Completed		1130 10/10/92		EPA Method 3550 *MOD	TEO
TCLP Benzene (Reg. Limit 0.5)	ND	mg/l	0121 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP Carbon Tetrachloride (.5)	ND	mg/l	0121 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chlorobenzene (Limit 100)	ND	mg/l	0121 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chloroform (Reg. Limit 6.0)	ND	mg/l	0121 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,4 Dichlorobenzene: RL 7.5	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP 1,2-Dichloroethane (RL .5)	ND	mg/l	0121 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,1-Dichloroethene (.7)	ND	mg/l	0121 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4-Dinitrotoluene (.13)	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorobenzene (.13)	ND	mg/l	2154 11/05/92	0.05	EPA Method 8270-TCLP	PM
TCLP Hexachlorobutadiene (.5)	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorethane (Limit 3)	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Nitrobenzene (Limit 2)	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Pentachlorophenol (100)	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Tetrachloroethylene (.7)	ND	mg/l	0121 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP Trichloroethylene (.5)	ND	mg/l	0121 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4,6-Trichlorophenol (2)	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Vinyl Chloride (.2)	ND	mg/l	0121 11/04/92	0.01	EPA Method 8240-TCLP	PM
TCLP 2,4,5-Trichlorophenol (400)	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Cresol (Reg. Limit 1)	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP MEK (Reg. Limit 200)	ND	mg/l	0121 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP Pyridine (Reg. Limit 5)	ND	mg/l	2154 11/05/92	0.01	EPA Method 8270-TCLP	PM
Total Petroleum Hydrocarbons	1900	mg/kg	1200 10/10/92	100	EPA Method 418.1	TEO
Metals Digestion TCLP 3010	Digested	a/s	2200 10/22/92		EPA Method 3010	KDC
Metals Digestion - TCLP 7470	Digested	A/S	2200 10/23/92		EPA Method 7470	KDC
TCLP Silver (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Arsenic (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.2	EPA Method 6010	GDG
TCLP Barium (Reg. Limit 100.0)	2.5	mg/l	1749 10/26/92	1.0	EPA Method 6010	GDG
TCLP Cadmium (Reg. Limit 1.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Chromium (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.02	EPA Method 6010	GDG
TCLP Mercury (Reg. Limit 0.2)	ND	mg/l	1515 11/06/92	.001	EPA Method 7470	RJC
TCLP Lead (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.1	EPA Method 6010	GDG
TCLP Selenium (Reg. Limit 1.0)	ND	mg/l	0926 10/27/92	.2	EPA Method 6010	RJC

Reported results for TCLP analysis are corrected upward to reflect matrix spike recoveries.

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President





2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/06/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: DSW-5 OFB Comp Dr 1,2  
Collected By: JPJ  
Date & Time Taken: 10/06/92 1735  
Other Data: Tinker AFB, Job # 5735  
Bottle Data: 1 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222703 Received: 10/07/92

Client: ARS1


PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Liquid-Liquid Extraction	1000->1	ml->ml	1721 10/22/92		EPA Method 3510	LM
TCLP ZHE Volatile Extraction	100.0% Sol	Completed.	1700 10/17/92		EPA Method 1311	LM
TCLP Extraction	Solid/Ext#1		1515 10/21/92		EPA Method 1311	102
Hydrocarbon Sonication Extract.	Completed		1130 10/10/92		EPA Method 3550 *MOD	TEO
TCLP Benzene (Reg. Limit 0.5)	ND	mg/l	0013 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP Carbon Tetrachloride (.5)	ND	mg/l	0013 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chlorobenzene (Limit 100)	ND	mg/l	0013 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chloroform (Reg. Limit 6.0)	ND	mg/l	0013 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,4 Dichlorobenzene: RL 7.5	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP 1,2-Dichloroethane (RL .5)	ND	mg/l	0013 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,1-Dichloroethene (.7)	ND	mg/l	0013 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4-Dinitrotoluene (.13)	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorobenzene (.13)	ND	mg/l	0441 11/05/92	0.05	EPA Method 8270-TCLP	PM
TCLP Hexachlorobutadiene (.5)	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Hexachlorethane (Limit 3)	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Nitrobenzene (Limit 2)	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Pentachlorophenol (100)	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Tetrachloroethylene (.7)	ND	mg/l	0013 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP Trichloroethylene (.5)	ND	mg/l	0013 11/04/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4,6-Trichlorophenol (2)	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Vinyl Chloride (.2)	ND	mg/l	0013 11/04/92	0.01	EPA Method 8240-TCLP	PM
TCLP 2,4,5-Trichlorophenol (400)	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP Cresol (Reg. Limit 1)	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM
TCLP MEK (Reg. Limit 200)	ND	mg/l	0013 11/04/92	0.05	EPA Method 8240-TCLP	PM
TCLP Pyridine (Reg. Limit 5)	ND	mg/l	0441 11/05/92	0.01	EPA Method 8270-TCLP	PM
Total Petroleum Hydrocarbons	24	mg/kg	1200 10/10/92	10	EPA Method 418.1	TEQ
Metals Digestion TCLP 3010	Digested	a/s	2200 10/22/92		EPA Method 3010	KDC
Metals Digestion - TCLP 7470	Digested	A/S	2200 10/23/92		EPA Method 7470	KDC
TCLP Silver (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Arsenic (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.2	EPA Method 6010	GDG
TCLP Barium (Reg. Limit 100.0)	3.8	mg/l	1749 10/26/92	1.0	EPA Method 6010	GDG
TCLP Cadmium (Reg. Limit 1.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Chromium (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.02	EPA Method 6010	GDG
TCLP Mercury (Reg. Limit 0.2)	.007	mg/l	1515 11/06/92	.001	EPA Method 7470	RJC
TCLP Lead (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.1	EPA Method 6010	GDG
TCLP Selenium (Reg. Limit 1.0)	ND	mg/l	0926 10/27/92	.2	EPA Method 6010	RJC

Reported results for TCLP analysis are corrected upward to reflect matrix spike recoveries.

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: Frac Tank Decon Rinsate  
Collected By: JPJ  
Date & Time Taken: 10/07/92  
Other Data: AFSCAPS Tinker AFB Job #5735  
Bottle Data: 3 -- Unpreserved Plastic/Glass (00)  
Lab Sample Number: 222897 Received: 10/09/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Liquid-Liquid Extraction	337->1	ml->ml	1507 10/22/92		EPA Method 3510	DDM
TCLP Liq-Liq Extr. W/Hex Exch.	337->2	ml->ml	1440 10/22/92		EPA Method 3510	GE
TCLP ZHE Volatile Extraction	13.0% Sol	Completed.	1700 10/17/92		EPA Method 1311	LM
TCLP Extraction	Aqueous		1330 10/20/92		EPA Method 1311	RJH
Esterification of Sample Extract	Completed.		0900 10/27/92		EPA Method 8150	KB
Fax This Report AS Soon As DONE!	FAXED		06:3011/02/92			
TCLP Benzene (Reg. Limit 0.5)	ND	mg/l	0725 10/30/92	0.005	EPA Method 8240-TCLP	PM
TCLP Gamma-BHC (Lindane) (.4)	ND	mg/l	1630 10/26/92	0.00024	EPA Method 8080-TCLP	KB
TCLP Carbon Tetrachloride (.5)	ND	mg/l	0725 10/30/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chlordane (Reg. Limit 0.03)	ND	mg/l	1630 10/26/92	0.00082	EPA Method 8080-TCLP	KB
TCLP Chlorobenzene (Limit 100)	ND	mg/l	0725 10/30/92	0.005	EPA Method 8240-TCLP	PM
TCLP Chloroform (Reg. Limit 6.0)	ND	mg/l	0725 10/30/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,4 Dichlorobenzene: RL 7.5	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
TCLP 1,2-Dichloroethane (RL .5)	ND	mg/l	0725 10/30/92	0.005	EPA Method 8240-TCLP	PM
TCLP 1,1-Dichloroethene (.7)	ND	mg/l	0725 10/30/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4-Dinitrotoluene (.13)	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
TCLP Endrin (Reg. Limit 0.02)	ND	mg/l	1630 10/26/92	0.00035	EPA Method 8080-TCLP	KB



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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Heptachlor (Limit .008)	ND	mg/l	1630 10/26/92	0.00018	EPA Method 8080-TCLP	KB
TCLP Heptachlor Epoxide (.008)	ND	mg/l	1630 10/26/92	0.0049	EPA Method 8080-TCLP	KB
TCLP Hexachlorobenzene (.13)	ND	mg/l	1607 10/30/92	0.1	EPA Method 8270-TCLP	WJP
TCLP Hexachlorobutadiene (.5)	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
TCLP Hexachlorethane (Limit 3)	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
TCLP Nitrobenzene (Limit 2)	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
TCLP Pentachlorophenol (100)	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
TCLP Tetrachloroethylene (.7)	ND	mg/l	0725 10/30/92	0.005	EPA Method 8240-TCLP	PM
TCLP Toxaphene (Reg. Limit 0.5)	ND	mg/l	1630 10/26/92	0.014	EPA Method 8080-TCLP	KB
TCLP Trichloroethylene (.5)	ND	mg/l	0725 10/30/92	0.005	EPA Method 8240-TCLP	PM
TCLP 2,4,6-Trichlorophenol (2)	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
TCLP Vinyl Chloride (.2)	ND	mg/l	0725 10/30/92	0.01	EPA Method 8240-TCLP	PM
TCLP 2,4 D (Reg. Limit 10)	ND	mg/l	1430 10/27/92	0.071	EPA Method 8150-TCLP	KB
TCLP 2,4,5-Trichlorophenol (400)	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
TCLP 2,4,5-TP (Silvex) (RL 1)	ND	mg/l	1430 10/27/92	0.01	EPA Method 8150-TCLP	KB
TCLP Cresol (Reg. Limit 1)	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
TCLP MEK (Reg. Limit 200)	13	mg/l	0725 10/30/92	0.05	EPA Method 8240-TCLP	PM
TCLP Methoxychlor (RL 10)	ND	mg/l	1630 10/26/92	0.011	EPA Method 8080-TCLP	KB
TCLP Pyridine (Reg. Limit 5)	ND	mg/l	1607 10/30/92	0.029	EPA Method 8270-TCLP	WJP
Metals Digestion - TCLP 3010	Digested	a/s	2200 10/22/92		EPA Method 3010	KDC
Metals Digestion - 7470	Digested	a/s	0830 10/22/92			JHL
TCLP Silver (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Arsenic (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.2	EPA Method 6010	GDG
TCLP Barium (Reg. Limit 100.0)	ND	mg/l	1749 10/26/92	1.0	EPA Method 6010	GDG

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
TCLP Cadmium (Reg. Limit 1.0)	ND	mg/l	1749 10/26/92	.01	EPA Method 6010	GDG
TCLP Chromium (Reg. Limit 5.0)	.03	mg/l	1749 10/26/92	.02	EPA Method 6010	GDG
TCLP Mercury (Reg. Limit 0.2)	ND	mg/l	1130 10/28/92	.001	EPA Method 7470	LW
TCLP Lead (Reg. Limit 5.0)	ND	mg/l	1749 10/26/92	.1	EPA Method 6010	GDG
TCLP Selenium (Reg. Limit 1.0)	ND	mg/l	0926 10/27/92	.2	EPA Method 6010	RJC

Quality Assurance for the SET with Sample 222897

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
<b>TCLP Silver (Reg. Limit 5.0)</b>									
	Blank	<.01	mg/l				1749	10/26/92	GDG
	Standard	.20	mg/l	.20		100	1749	10/26/92	GDG
	Standard	.99	mg/l	1.0		101	1749	10/26/92	GDG
	Standard	1.0	mg/l	1.0		100	1749	10/26/92	GDG
	Standard	2.1	mg/l	2.0		105	1749	10/26/92	GDG
222697	Duplicate	ND	mg/l	ND		100	1749	10/26/92	GDG
222697	Spike		mg/l		1.0	98	1749	10/26/92	GDG
222699	Spike		mg/l		1.0	97	1749	10/26/92	GDG
222701	Spike		mg/l		1.0	97	1749	10/26/92	GDG
222703	Spike		mg/l		1.0	97	1749	10/26/92	GDG
222711	Spike		mg/l		1.0	99	1749	10/26/92	GDG
222768	Spike		mg/l		1.0	97	1749	10/26/92	GDG
222816	Spike		mg/l		1.0	95	1749	10/26/92	GDG
<b>TCLP Arsenic (Reg. Limit 5.0)</b>									
	Blank	<.2	mg/l				1749	10/26/92	GDG
	Standard	1.0	mg/l	1.0		100	1749	10/26/92	GDG
	Standard	5.1	mg/l	5.0		102	1749	10/26/92	GDG
	Standard	4.9	mg/l	5.0		102	1749	10/26/92	GDG
	Standard	9.9	mg/l	10		101	1749	10/26/92	GDG
222697	Duplicate	ND	mg/l	ND		100	1749	10/26/92	GDG
222697	Spike		mg/l		5.0	102	1749	10/26/92	GDG
222699	Spike		mg/l		5.0	99	1749	10/26/92	GDG
222701	Spike		mg/l		5.0	103	1749	10/26/92	GDG
222703	Spike		mg/l		5.0	101	1749	10/26/92	GDG
222711	Spike		mg/l		5.0	104	1749	10/26/92	GDG
222768	Spike		mg/l		5.0	101	1749	10/26/92	GDG
222816	Spike		mg/l		5.0	103	1749	10/26/92	GDG
<b>TCLP Barium (Reg. Limit 100.0)</b>									
	Blank	<1.0	mg/l				1749	10/26/92	GDG
	Standard	1.0	mg/l	1.0		100	1749	10/26/92	GDG
	Standard	4.9	mg/l	5.0		102	1749	10/26/92	GDG
	Standard	4.9	mg/l	5.0		102	1749	10/26/92	GDG
	Standard	10	mg/l	10		100	1749	10/26/92	GDG

Continued

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
222697	Duplicate	ND	mg/l	ND		100	1749	10/26/92	GDG
222697	Spike		mg/l		5.0	97	1749	10/26/92	GDG
222699	Spike		mg/l		5.0	93	1749	10/26/92	GDG
222701	Spike		mg/l		5.0	94	1749	10/26/92	GDG
222703	Spike		mg/l		5.0	91	1749	10/26/92	GDG
222711	Spike		mg/l		5.0	98	1749	10/26/92	GDG
222768	Spike		mg/l		5.0	98	1749	10/26/92	GDG
222816	Spike		mg/l		5.0	100	1749	10/26/92	GDG
<b>TCLP Cadmium (Reg. Limit 1.0)</b>									
	Blank	<.01	mg/l				1749	10/26/92	GDG
	Standard	.50	mg/l	.50		100	1749	10/26/92	GDG
	Standard	.95	mg/l	1.0		105	1749	10/26/92	GDG
	Standard	2.4	mg/l	2.5		104	1749	10/26/92	GDG
	Standard	4.8	mg/l	5.0		104	1749	10/26/92	GDG
222697	Duplicate	ND	mg/l	ND		100	1749	10/26/92	GDG
222697	Spike		mg/l		1.0	89	1749	10/26/92	GDG
222699	Spike		mg/l		1.0	91	1749	10/26/92	GDG
222701	Spike		mg/l		1.0	91	1749	10/26/92	GDG
222703	Spike		mg/l		1.0	90	1749	10/26/92	GDG
222711	Spike		mg/l		5.0	93	1749	10/26/92	GDG
222768	Spike		mg/l		1.0	96	1749	10/26/92	GDG
222816	Spike		mg/l		1.0	92	1749	10/26/92	GDG
<b>TCLP Chromium (Reg. Limit 5.0)</b>									
	Blank	<.02	mg/l				1749	10/26/92	GDG
	Standard	1.0	mg/l	1.0		100	1749	10/26/92	GDG
	Standard	5.2	mg/l	5.0		104	1749	10/26/92	GDG
	Standard	5.0	mg/l	5.0		100	1749	10/26/92	GDG
	Standard	9.8	mg/l	10		102	1749	10/26/92	GDG
222697	Duplicate	ND	mg/l	ND		100	1749	10/26/92	GDG
222697	Spike		mg/l		1.0	99	1749	10/26/92	GDG
222699	Spike		mg/l		5.0	98	1749	10/26/92	GDG
222701	Spike		mg/l		5.0	98	1749	10/26/92	GDG
222703	Spike		mg/l		5.0	97	1749	10/26/92	GDG
222711	Spike		mg/l		5.0	100	1749	10/26/92	GDG
222768	Spike		mg/l		5.0	101	1749	10/26/92	GDG
222816	Spike		mg/l		5.0	99	1749	10/26/92	GDG
<b>TCLP Mercury (Reg. Limit 0.2)</b>									
	Blank	.01	mg/l				1130	10/28/92	LW
	Blank	.002	mg/l				1130	10/28/92	LW
	Standard	.010	mg/l	.010		100	1130	10/28/92	LW
	Standard	.011	mg/l	.010		110	1130	10/28/92	LW
	Standard	.010	mg/l	.010		100	1130	10/28/92	LW
	Standard	.011	mg/l	.010		110	1130	10/28/92	LW
	Standard	.010	mg/l	.010		100	1130	10/28/92	LW
	Standard	.010	mg/l	.010		100	1130	10/28/92	LW
	Standard	.010	mg/l	.010		100	1130	10/28/92	LW

Continued



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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Standard	.010	mg/l	.010		100	1130	10/28/92	LW
	Standard	.011	mg/l	.010		110	1130	10/28/92	LW
222416	Duplicate	ND	mg/l	ND		100	1130	10/28/92	LW
222768	Duplicate	ND	mg/l	.001		300	1130	10/28/92	LW
223604	Spike		mg/l		.010	81	1130	10/28/92	LW
223073	Spike		mg/l		.010	67	1130	10/28/92	LW
223182	Spike		mg/l		.010	100	1130	10/28/92	LW
221766	Spike		mg/l		.010	86	1130	10/28/92	LW
222101	Spike		mg/l		.010	91	1130	10/28/92	LW
222102	Spike		mg/l		.010	99	1130	10/28/92	LW
222162	Spike		mg/l		.010	109	1130	10/28/92	LW
222416	Spike		mg/l		.010	98	1130	10/28/92	LW
222897	Spike		mg/l		.010	90	1130	10/28/92	LW
222104	Spike		mg/l		.010	95	1130	10/28/92	LW
222107	Spike		mg/l		.010	85	1130	10/28/92	LW
222108	Spike		mg/l		.010	74	1130	10/28/92	LW
222113	Spike		mg/l		.010	60	1130	10/28/92	LW
222115	Spike		mg/l		.010	68	1130	10/28/92	LW
222116	Spike		mg/l		.010	51	1130	10/28/92	LW
222117	Spike		mg/l		.010	97	1130	10/28/92	LW
222768	Spike		mg/l		.010	96	1130	10/28/92	LW
222816	Spike		mg/l		.010	84	1130	10/28/92	LW
<b>TCLP Lead (Reg. Limit 5.0)</b>									
	Blank	<.1	mg/l				1749	10/26/92	GDG
	Standard	.99	mg/l	1.0		101	1749	10/26/92	GDG
	Standard	5.1	mg/l	5.0		102	1749	10/26/92	GDG
	Standard	4.9	mg/l	5.0		102	1749	10/26/92	GDG
	Standard	10	mg/l	10		100	1749	10/26/92	GDG
222697	Duplicate	ND	mg/l	ND		100	1749	10/26/92	GDG
222697	Spike		mg/l		1.0	96	1749	10/26/92	GDG
222699	Spike		mg/l		5.0	95	1749	10/26/92	GDG
222701	Spike		mg/l		5.0	95	1749	10/26/92	GDG
222703	Spike		mg/l		5.0	96	1749	10/26/92	GDG
222711	Spike		mg/l		5.0	98	1749	10/26/92	GDG
222766	Spike		mg/l		5.0	96	1749	10/26/92	GDG
222768	Spike		mg/l		5.0	98	1749	10/26/92	GDG
222816	Spike		mg/l		5.0	98	1749	10/26/92	GDG
<b>TCLP Selenium (Reg. Limit 1.0)</b>									
	Blank	<.2					0926	10/27/92	RJC
	Blank	<.1					0926	10/27/92	RJC
	Standard	.98		1.0		102	0926	10/27/92	RJC
	Standard	.99		1.0		101	0926	10/27/92	RJC
	Standard	4.9		5.0		102	0926	10/27/92	RJC
	Standard	4.3		5.0		115	0926	10/27/92	RJC
	Standard	.94		1.0		106	0926	10/27/92	RJC
222697	Duplicate	ND	mg/l	ND		100	0926	10/27/92	RJC

Continued



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

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222897 Continued

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
222697	Spike		mg/l		1.0	98	0926	10/27/92	RJC
222699	Spike		mg/l		1.0	105	0926	10/27/92	RJC
222701	Spike		mg/l		1.0	105	0926	10/27/92	RJC
222702	Spike		mg/l		1.0	100	0926	10/27/92	RJC
222703	Spike		mg/l		1.0	99	0926	10/27/92	RJC
222711	Spike		mg/l		1.0	100	0926	10/27/92	RJC
222768	Spike		mg/l		1.0	99	0926	10/27/92	RJC
222816	Spike		mg/l		1.0	95	0926	10/27/92	RJC
222897	Spike		mg/l		1.0	89	0926	10/27/92	RJC

Reported results for TCLP analysis are corrected upward to reflect matrix spike recoveries.

I certify that the results were generated using the above specified methods.

C.H. Whiteside, Ph.D., President



## **APPENDIX P**

### **ANALYTICAL RESULTS FROM LABORATORY AND EQUIPMENT BLANKS**



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: GC Lab Blank 1  
Collected By: JPJ  
Date & Time Taken: 09/29/92 1130  
Other Data: AFSCAPS Job # 5735, Tinker AFB  
Bottle Data: 2 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 222088 Received: 09/30/92

Client: ARS1


PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Xylenes	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Acrolein	ND	ug/l	1719 10/27/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/l	1719 10/27/92	100	EPA Method 8240	GO
Benzene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Bromoform	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/l	1719 10/27/92	10	EPA Method 8240	GO
Carbon Tetrachloride	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Chlorobenzene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/l	1719 10/27/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/l	1719 10/27/92	10	EPA Method 8240	GO
Chloroform	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/l	1719 10/27/92	10	EPA Method 8240	GO
Dibromochloromethane	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Bromodichloromethane	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO

222088 Continued

Page 2

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,2-Dichloroethene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Dichlorodifluoromethane	ND	ug/l	1719 10/27/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Ethyl benzene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Methylene Chloride	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
1,1,2,2-Tetrachloroethane	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
1,1,1-Trichloroethane	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/l	1719 10/27/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/l	1719 10/27/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/l	1719 10/27/92	5.0	EPA Method 8240	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: WTP-RB1  
Collected By: JPJ  
Date & Time Taken: 09/26/92 1150  
Other Data: AFSCAPS Job #5735, Tinker AFB  
Bottle Data: 1 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 221848 Received: 09/28/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Xylenes	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Acrolein	ND	ug/l	1644 10/27/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/l	1644 10/27/92	100	EPA Method 8240	GO
Benzene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Bromoform	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/l	1644 10/27/92	10	EPA Method 8240	GO
Carbon Tetrachloride	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Chlorobenzene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/l	1644 10/27/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/l	1644 10/27/92	10	EPA Method 8240	GO
Chloroform	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/l	1644 10/27/92	10	EPA Method 8240	GO
Dibromochloromethane	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Bromodichloromethane	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO



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11/05/92

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,2-Dichloroethene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Dichlorodifluoromethane	ND	ug/l	1644 10/27/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Ethyl benzene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Methylene Chloride	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
1,1,2,2-Tetrachloroethane	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
1,1,1-Trichloroethane	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/l	1644 10/27/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/l	1644 10/27/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/l	1644 10/27/92	5.0	EPA Method 8240	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

Sample Identification: WTP-RB1  
Collected By: JPJ  
Date & Time Taken: 09/23/92 1650  
Other Data: AFSCAPS Job #5735, Tinker AFB  
Bottle Data: 2 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)  
Lab Sample Number: 221724 Received: 09/25/92

Client: ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Xylenes	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Acrolein	ND	ug/l	1535 10/27/92	100	EPA Method 8240	GO
Acrylonitrile	ND	ug/l	1535 10/27/92	100	EPA Method 8240	GO
Benzene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Bromoform	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Bromomethane	ND	ug/l	1535 10/27/92	10	EPA Method 8240	GO
Carbon Tetrachloride	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Chlorobenzene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Chloroethane	ND	ug/l	1535 10/27/92	10	EPA Method 8240	GO
2-Chloroethylvinyl ether	ND	ug/l	1535 10/27/92	10	EPA Method 8240	GO
Chloroform	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Chloromethane	ND	ug/l	1535 10/27/92	10	EPA Method 8240	GO
Dibromochloromethane	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Bromodichloromethane	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
1,1-Dichloroethane	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
1,2-Dichloroethane	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
1,1-Dichloroethene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO

Continued  
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221724 Continued

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,2-Dichloroethene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Dichlorodifluoromethane	ND	ug/l	1535 10/27/92	1.0	EPA Method 8240	GO
1,2-Dichloropropane	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
cis-1,3-Dichloropropene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Ethyl benzene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Methylene Chloride	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
1,1,2,2-Tetrachloroethane	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Tetrachloroethene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Toluene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
1,1,1-Trichloroethane	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
1,1,2-Trichloroethane	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Trichloroethene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO
Trichlorofluoromethane	ND	ug/l	1535 10/27/92	10	EPA Method 8240	GO
Vinyl Chloride	ND	ug/l	1535 10/27/92	10	EPA Method 8240	GO
trans-1,3-Dichloropropene	ND	ug/l	1535 10/27/92	5.0	EPA Method 8240	GO

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551 — FAX 903/984-5914

Analytical Chemistry • Utility Operations

11/05/92

Applied Research Associates  
RR #1, Box 120-A  
Waterman Road  
South Royalton, VT 05068-  
Attention: Jack Jemsek

**Sample Identification:** NTA-B05-B EB-Bailer

**Collected By:** JPJ

**Date & Time Taken:** 09/16/92 1520

**Other Data:** Tinker AFB

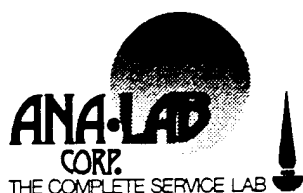
**Bottle Data:** 1 -- 40 ml Glass Vial (Zero Headspace) with a Teflon Lined Lid (04)

**Lab Sample Number:** 221087 **Received:** 09/18/92

**Client:** ARS1

PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
Xylenes	nd	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Acrolein	ND	ug/l	1254 09/25/92	100	EPA Method 8240	PM
Acrylonitrile	ND	ug/l	1254 09/25/92	100	EPA Method 8240	PM
Benzene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Bromoform	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Bromomethane	ND	ug/l	1254 09/25/92	10	EPA Method 8240	PM
Carbon Tetrachloride	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Chlorobenzene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Chloroethane	ND	ug/l	1254 09/25/92	10	EPA Method 8240	PM
2-Chloroethylvinyl ether	ND	ug/l	1254 09/25/92	10	EPA Method 8240	PM
Chloroform	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Chloromethane	ND	ug/l	1254 09/25/92	10	EPA Method 8240	PM
Dibromochloromethane	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Bromodichloromethane	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
1,1-Dichloroethane	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
1,2-Dichloroethane	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
1,1-Dichloroethene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM





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Analytical Chemistry • Utility Operations


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221087 Continued

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PARAMETER	RESULTS	UNITS	ANALYZED	EQL	METHOD	BY
trans-1,2-Dichloroethene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Dichlorodifluoromethane	ND	ug/l	1254 09/25/92	1.0	EPA Method 8240	PM
1,2-Dichloropropane	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
cis-1,3-Dichloropropene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Ethyl benzene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Methylene Chloride	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
1,1,2,2-Tetrachloroethane	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Tetrachloroethene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Toluene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
1,1,1-Trichloroethane	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
1,1,2-Trichloroethane	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Trichloroethene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM
Trichlorofluoromethane	ND	ug/l	1254 09/25/92	10	EPA Method 8240	PM
Vinyl Chloride	ND	ug/l	1254 09/25/92	10	EPA Method 8240	PM
trans-1,3-Dichloropropene	ND	ug/l	1254 09/25/92	5.0	EPA Method 8240	PM

I certify that the results were generated using the above specified methods.

  
C.H. Whiteside, Ph.D., President

## **APPENDIX Q**

### **SAMPLE CHAIN OF CUSTODY FORMS**

CONTACT: Jack Tensel

**APPLIED RESEARCH ASSOCIATES, INC.**

JOB NAME: AFSCARS

RR #1, Box 120-A  
Waterman Road  
4300 San Mateo Blvd. NE  
Suite A220

JOB # 5435 PO # \_\_\_\_\_

**South Royalton, Vermont 05068    Albuquerque, New Mexico 87110**  
**(802) 763-8348                      (505) 883-3636**

LOCATION: Tinog AFB

**FAX: (802) 763-8283**

SAMPLED BY: SPJ Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK REF NO. _____ PAGE(S) _____				
								8240	4181	HPLC	8270					
	NTA-04-SS1	9/2/92	12:30	SOL	4ml	NA	NA	✓								
	NTA-04-SS2	9/2/92	13:00	SOL	4ml	↓	↓	✓								Ⓢ15.3'
	NTA-04-SS3	9/2/92	14:30	SOL	4ml	↓	↓	✓								
	NTA-04-SS1/SS3	9/2/92	14:30	SOL	1 qt	↓	↓	✓	✓	✓						slowly
	NTA-04-SS1	9/2/92	12:30	SOL	1 qt	↓	↓	✓	✓	✓						
b BOSE/NEUTRAL ONLY																
c HPLC for Naphthalene																
RELINQUISHED BY: [Signature]		DATE: 9/2/92	TIME: 1:00	RECEIVED BY: [Signature]		DATE: 9-1-92	TIME: 2:10									
RELINQUISHED BY:		DATE:	TIME:	RECEIVED BY:		DATE:	TIME:									
RELINQUISHED BY:		DATE:	TIME:	RECEIVED BY:		DATE:	TIME:									
METHOD OF SHIPMENT:																

**APPLIED RESEARCH ASSOCIATES, INC.**

CONTACT: Jack Semsek

JOB NAME: AFSCAPS

JOB # 5735 PO #

LOCATION: Tinker AFB

**RR #1, Box 120-A  
Waterman Road  
4300 San Mateo Blvd. NE  
Suite A220**

**South Royalton, Vermont 05068    Albuquerque, New Mexico 87110**

**(802) 763-8348                      (505) 883-3636**

FAX: (802) 763-8283 FAX: (505) 883-3673

SAMPLED BY: SPS Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED					FIELD LOG BOOK	
								0628	4181	HR/C	8220	T. Heavy	REF NO.	PAGE(S)
	FPA-G11A-SS1	7/14/92	17:00	soil	1qt			✓	✓	✓			6140	10/10/5'
														to 1.6'
24HR	RUSH	8220	✓	HR/C										
a	CASE/NEUTRAL	0129												
b	HR/C for vinyltoluene	1 out of 1												
RELINQUISHED BY: JACK SEMSEK		DATE: 9/15/92	TIME: 8:24 P	RECEIVED BY: J. Semsek		DATE: 9-16-92	TIME: 8:00							
RELINQUISHED BY:		DATE:	TIME:	RECEIVED BY:		DATE:	TIME:							
RELINQUISHED BY:		DATE:	TIME:	RECEIVED BY:		DATE:	TIME:							
METHOD OF SHIPMENT:		REMARKS:												



# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: Jack Jemsek

JOB NAME: AFSCAPS

JOB # 5735 PO # 11015

LOCATION: Travis AFB

RR #1, Box 120-A

Waterman Road

South Royalton, Vermont 05068

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4300 San Mateo Blvd. NE

Suite A220

Albuquerque, New Mexico 87110

(505) 883-3636

FAX: (505) 883-3673

SAMPLED BY: JJS Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK REF NO. _____ PAGE(S) _____
								8740	4/8.1	4/10.1	8720	
	FPA-11-SS3	9/15	12:47	SO-L	GOUDA	-	-	✓	✓	✓	✓	① 9' "HOT"
	FPA-13-SS3	9/15	11:45	"	"	-	-	✓	✓	✓	✓	② 15'
	FPA-12-SS2	7/15	10:15	"	"			✓	✓	✓	✓	③ 10'
	NTA-B10-SS1	9/17	17:00	SO-L	16T			✓	✓	✓	✓	13-14'
	NTA-B62-SS1	9/17	16:15	"	"			✓	✓	✓	✓	12-14'
	NTA-B62-SS1	9/17	12:20	"	"			✓	✓	✓	✓	13-14'
	NTA-B66-SS1	9/17	9:30	"	"			✓	✓	✓	✓	13-14'
	NTA-B67-SS1	9/17	11:00	"	"			✓	✓	✓	✓	17-17' HOT - Fuel 1(10)
	NTA-B65-SS1	9/17	12:30	"	"			✓	✓	✓	✓	13-16'
	NTA-B08-SS1	9/17	17:00	"	"			✓	✓	✓	✓	13-14' HOT
								✓	✓	✓	✓	13-15' HOT-F0

RELINQUISHED BY: <u>Jack Jemsek</u>	DATE: <u>9/18/92</u>	TIME: <u>0:50</u>	RECEIVED BY: <u>Jack Jemsek</u>	DATE: <u>9-18-92</u>	TIME: <u>9:00</u>
RELINQUISHED BY: <u>Jack Jemsek</u>	DATE: <u>9/18/92</u>	TIME: <u>0:50</u>	RECEIVED BY: <u>Jack Jemsek</u>	DATE: <u>9-18-92</u>	TIME: <u>9:00</u>
RELINQUISHED BY: <u>Jack Jemsek</u>	DATE: <u>9/18/92</u>	TIME: <u>0:50</u>	RECEIVED BY: <u>Jack Jemsek</u>	DATE: <u>9-18-92</u>	TIME: <u>9:00</u>
METHOD OF SHIPMENT: <u>55735</u>			REMARKS: <u>HPLC = NPHTHANAL, 1-ACTHGL, NAPHTHANAL</u>		

HPLC = NPHTHANAL, 1-ACTHGL, NAPHTHANAL  
8720 - BASE/NEUTRAL, SPLIT WITH HPCL

# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: Jack Jensen

JOB NAME: AFSCMS T. 1013 AFB

JOB # 5435 PO # \_\_\_\_\_

LOCATION: T. 1013 AFB, CR

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Waterman Road  
South Royalton, Vermont 05068  
(802) 763-8348  
FAX: (802) 763-8283

4300 San Mateo Blvd. NE  
Suite A220  
Albuquerque, New Mexico 87110  
(505) 883-3636  
FAX: (505) 883-3673

SAMPLED BY: SPS Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED					FIELD LOG BOOK REF NO. _____ PAGE(S) _____
								8240	7120	4201	8202		
	NTA-B11-SS1	9/18	11:30	Soil	1 qt	-	-	V	V	V	V		13-14'
	NTA-B09-SS2	9/18	10:05	"	"	-	-	V	V	V	V		13-15'
	FPA-B03-SS2	9/11	12:00	"	6 1/2 qt			V	V	NO	V	b	10' Short Hole
	NTA-B04	9/18	11:00	Wob	2 x 400			V	V				
	NTA-B02	9/18	17:00	"	"	-	-	V	V				
	NTA-B14	9/18	12:00	"	"	-	-	V	V				
	NTA-B11	9/18	12:30	"	"	-	-	V	V				
	NTA-B06	9/18	13:00	V	"	-	-	V	V				
	NTA-B09	9/18	17:20	"	"	-	-	V	V				Suspected Fuel Oil

RELINQUISHED BY: <u>Jack Jensen</u>	DATE: <u>9/21/92</u>	TIME: <u>8:00</u>	RECEIVED BY: <u>Jack Jensen</u>	DATE: <u>9-21-92</u>	TIME: <u>8:15</u>
RELINQUISHED BY: _____	DATE: _____	TIME: _____	RECEIVED BY: _____	DATE: _____	TIME: _____
RELINQUISHED BY: _____	DATE: _____	TIME: _____	RECEIVED BY: _____	DATE: _____	TIME: _____
METHOD OF SHIPMENT: _____					
REMARKS: _____					

1 Naphthalene, 1-Methyl Naphthalene, 2-Methyl Naphthalene  
6 Fluorobenzene, 8240, 8240, 418.1, 420.1, 1101, 319, 1101

# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: JACK JENSEN

JOB NAME: AFSCAPS

JOB # 5135 PO #           

LOCATION: Tinker AFB

RR #1, Box 120-A

Waterman Road

South Royalton, Vermont 05068

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FAX: (802) 763-8283

4300 San Mateo Blvd. NE

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(505) 883-3636

FAX: (505) 883-3673

SAMPLED BY: SPJ Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOLT/TYPE	FIELD FILTERED (V/N)	PRESER. VATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK REF NO. <u>      </u> PAGE(S) <u>      </u>
								9/18/92	9/18/92	9/18/92	9/18/92	
	FPA - B41 - SS2	9/22/92	9:30	Soil	10A	-	-	✓	✓	✓	✓	10-11'
	FPA - B41 - SS1	9/22/92	9:30	Soil	10A	-	-	✓	✓	✓	✓	4-5' hot
	FPA - B32 - SS3	9/22/92	16:00	Soil	10A	-	-	✓	✓	✓	✓	10'
	FPA - B32 - SS1	9/22/92	15:30	"	140nd	-	-	✓	✓	✓	✓	61'
	FPA - B32 - SS2	9/22/92	15:50	"	"	-	-	✓	✓	✓	✓	6 61
	FPA - B32 - SS4	9/22/92	16:00	"	"	-	-	✓	✓	✓	✓	17-22' 141
	FPA - B32 - SS5	9/22/92	16:00	"	"	-	-	✓	✓	✓	✓	17-22' 1
	FPA - B32 - SS6	9/22/92	16:30	"	"	-	-	✓	✓	✓	✓	22-29' 1
	FPA - B32 - SS4	9/22/92	17:00	"	"	-	-	✓	✓	✓	✓	620'

RELINQUISHED BY: <u>Jack Jensen</u>	DATE: <u>9/22/92</u>	TIME: <u>8:00</u>	RECEIVED BY: <u>Richard Johnson</u>	DATE: <u>9-22-92</u>	TIME: <u>8:50</u>
RELINQUISHED BY: <u>          </u>	DATE: <u>          </u>	TIME: <u>          </u>	RECEIVED BY: <u>          </u>	DATE: <u>          </u>	TIME: <u>          </u>
RELINQUISHED BY: <u>          </u>	DATE: <u>          </u>	TIME: <u>          </u>	RECEIVED BY: <u>          </u>	DATE: <u>          </u>	TIME: <u>          </u>
METHOD OF SHIPMENT: <u>          </u>			REMARKS: <u>          </u>		

- a Graph showing 1 me nitrogen, 2 me nitrogen
- b base/neutral only



**APPLIED RESEARCH ASSOCIATES, INC.**

JOB NAME: AFSCAPS

LOCATION: Tinker AFB, OK

RR #1, Box 120-A

## Waterman Road

**South Royalton, Vermont 05068**

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**FAX: (802) 763-8283**

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Albuquerque, New Mexico 87110

**(505) 883-3636**

**FAX: (505) 883-3673**

SAMPLED BY: SPJ

Please send results to office circled above.

Case / Number 525

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (V/N)	PRESERVATIVE	ANALYSIS REQUESTED				REMARKS
								*Metals	As	Pb	Cd	
	WTP-B01-SS1	9/24/92	15:03	Soil	164			✓	✓	✓	✓	1910
	WTP-B02-SS1	"	15:33	Soil	164			✓	✓	✓	✓	1910
	WTP-B03-SS1		16:25	Soil	164			✓	✓	✓	✓	1910
* T. Metals =		Cd	Cs	Ba	Pb	2N AS						
RELINQUISHED BY: Joe Jernade	DATE: 9/25/92	TIME: 8:10	RECEIVED BY: JEC/mtf/10/26/92									
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:									
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:									
METHOD OF SHIPMENT:			REMARKS:									

**APPLIED RESEARCH ASSOCIATES, INC.**

JOB NAME: AFSCAPS

LOCATION: Timber AFB, OK

RR #1, Box 120-A  
Waterman Road  
South Royalton, Vermont 05068  
(802) 763-8348  
FAX: (802) 763-8283

SAMPLED BY: SPS Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED										REMARKS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
								8240	1815																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	FPA-01	9/24/92	8:20	water	2 vials	-	-	✓	✓																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	</

# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: Jack SENSEK

JOB NAME: AFSCAPS

JOB # 5435 PO #           

LOCATION: Tinker AFB, OK

RR #1, Box 120-A  
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Albuquerque, New Mexico 87110  
(505) 883-3636  
FAX: (505) 883-3673

SAMPLED BY: SPS Please send results to office circled above.

CASE/NEUTRAL ONLY

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESER- VATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK REF NO. _____	PAGE(S) _____	REMARKS
								8240	418.1	420.1	8240			
	FPA-B31-SS1	9/23/92	11:15	Soil	1 qt	-	-		✓	✓	✓			①1'
	"	"	"	"	1 Vial	-	-	✓						②1'
	FPA-B31-SS1	"	12:20	"	1 qt	-	-		✓	✓	✓			2.5-3.5'
	"	"	"	"	1 Vial	-	-	✓						2.5-3.5'
	FPA-B31-SS2	"	12:50	"	1 Vial				✓					6'
	FPA-B31-SS3	"	12:20	"	1 qt				✓	✓	✓			8-9'
	"	"	"	"	1 Vial			✓						8-9'
	FPA-B31-SS4	"	13:00	"	1 Vial				✓					⑧11'
	FPA-B31-SS4A	"	13:44	"	1 qt				✓	✓	✓			⑩13'
	FPA-B31-SS4A	"	"	"	1 Vial			✓						⑩13'

RELINQUISHED BY: <u>Jack SENSEK</u>	DATE: <u>9/25/92</u>	TIME: <u>8:10</u>	RECEIVED BY: <u>Richard J. Williams</u>	DATE: <u>9-25-92</u>	TIME: <u>8:15</u>
RELINQUISHED BY: <u>          </u>	DATE: <u>          </u>	TIME: <u>          </u>	RECEIVED BY: <u>          </u>	DATE: <u>          </u>	TIME: <u>          </u>
RELINQUISHED BY: <u>          </u>	DATE: <u>          </u>	TIME: <u>          </u>	RECEIVED BY: <u>          </u>	DATE: <u>          </u>	TIME: <u>          </u>
METHOD OF SHIPMENT: <u>          </u>					
REMARKS: <u>          </u>					

HPLC = North Hg, 1 Neophthalene, 2 Me Phthalene

CONTACT: Jack Semsek

JOB NAME: AFSCAPS

JOB # 5735 PO # \_\_\_\_\_

LOCATION: Tinker AFB, OK

SAMPLED BY: SPS

**Please send results to office circled above.**

**APPLIED RESEARCH ASSOCIATES, INC.**

**RR #1, Box 120-A  
Waterman Road**

**South Royalton, Vermont 05068  
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**Albuquerque, New Mexico 87110  
(505) 883-3636**

**FAX: (505) 883-3673**

BASE/NEUTRAL ONLY

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED				REMARKS
								824C	418.1	420.1	1C4P	
	FPA-B31-SS5	9/25/92	12:40	SOIL	10.0L	-	-	✓				16'
	FPA-B31-SS6	"	13:20	"	"	-	-	✓				19'
	FPA-B33-SS1	"	16:00	"	"			✓				11'
	FPA-B33-SS2	"	16:10	"	"			✓				13.5'
	FPA-B33-SS3	"	16:20	"	1qt			✓	✓	✓		7-2'
	<del>FPA-B33-SS4</del>	"	<del>16:20</del>	<del>"</del>	<del>1qt</del>			<del>✓</del>	<del>MA</del>	<del>MA</del>		<del>9-70'</del>
	FPA-B33-SS5	"	16:40	"	2 vials			✓				13'
	FPA-B33-SS6	"	16:45	"	10.0L			✓				19-22'
	FPA-B33-SS4	"	16:20	"	1qt			✓		✓		

RELINQUISHED BY: Joe Jorde	DATE: 9/25/92	TIME: 8:10	RECEIVED BY: Richard J. Jorde	DATE: 9-25-92	TIME: 8:15
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
METHOD OF SHIPMENT:					
REMARKS:					

HPLC = Naphthalene, 1 the Naphthalene, 2 the Naphthalene  
 TAP = metals, Volatiles, Semi Volatiles

# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: Jack Semsek

JOB NAME: AFSCAPS

JOB # 5735 PO #

LOCATION: Tinker AFB, OK

RR #1, Box 120-A

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South Royalton, Vermont 05068

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SAMPLED BY: SPJ Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK	
								2340	704			REF NO.	PAGE(S)
	ETA-641-SS1	9/24/92	16:46	Sil	1 Vol			V				1-1.5'	
	ETA-641-SS2	"	17:00	"	"			V				3.25-4.0'	
	ETA-641-SS3	"	17:00	"	"			V				6-7'	
	<del>ETA-641-SS1</del>	<del>"</del>	<del>"</del>	<del>"</del>	<del>"</del>								
	ETA-641-SS5	"	18:00	"	"			V				9.5-10.0'	
	ETA-641-U	"	18:00		2 Vol	NO	NO	V	V			Hot	

RELINQUISHED BY: <u>Jack Semsek</u>	DATE: <u>9/28/92</u>	TIME: <u>8:40</u>	RECEIVED BY: <u>Michael J. Miller</u>	DATE: <u>9-28-92</u>	TIME: <u>9:45</u>
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
METHOD OF SHIPMENT:					

# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: JACK JEMSEK  
 JOB NAME: AFSCAPS  
 JOB # 5735 PO # \_\_\_\_\_  
 LOCATION: Tinker AFB

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 FAX: (505) 883-3673

metals, Volatiles, semi-vols

SAMPLED BY: SPJ Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK REF NO. _____ PAGE(S) _____	REMARKS
								8240	8270	8290	8300		
	WTP-B04-SS1	9/15/92	10:35	50.1	1 qt	-	-	✓	✓	✓	✓		@ 16'
	WTP-B05-SS1	"	11:22	"	"			✓	✓	✓	✓		@ 14'
	WTP-B06-SS1	"	11:40	"	"			✓	✓	✓	✓		13-17'
	WTP-B07-SS1	"	13:00	"	"			✓	✓	✓	✓		@ 16'
	WTP-B08-SS1	"	16:00	"	"			✓	✓	✓	✓		@ 16'
	WTP-G1	"	16:24	"	"						✓		WTP-B05, B06, B07 congruent 14-17'
✓ Total Metals =	Ca, Cr			Rq Pb Zn As Hg Ni									
✓ BASE/NEUTRAL ONLY													

RELINQUISHED BY: <u>Jack Jemsek</u>	DATE: <u>9-28-92</u>	TIME: <u>8:40</u>	RECEIVED BY: <u>Richard Hollena</u>	DATE: <u>9-28-92</u>	TIME: <u>8:40</u>
RELINQUISHED BY: _____	DATE: _____	TIME: _____	RECEIVED BY: _____	DATE: _____	TIME: _____
RELINQUISHED BY: _____	DATE: _____	TIME: _____	RECEIVED BY: _____	DATE: _____	TIME: _____
METHOD OF SHIPMENT: _____					
REMARKS: _____					



# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: Jack Jensen

JOB NAME: ASAPs

JOB # 5735 PO # \_\_\_\_\_

LOCATION: T. Mateo AFPs

RR #1, Box 120-A

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South Royalton, Vermont 05068

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FAX: (505) 883-3673

SAMPLED BY: JS Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (V/N)	PRESERVATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK REF NO. _____ PAGE(S) _____	REMARKS
								* T. Mateo	* T. Mateo	* T. Mateo	* T. Mateo		
	OSC-B01-SS1	9/25/92	17:50	Soil	1 qt			V	V	V	V		0.16'
	OSC-B07-SS1	"	18:00	"	"			V	V	V	V		0.11'
	OSC-C01	9/26/92	12:00	"	"			V	V	V	V		0.1-0.5' OUTFALL
	WTP-B04-SS1	9/25/92	10:25	"	1 vid			V	V	V	V		0.16'
	WTP-B06-SS1	"	11:40	"	"			V	V	V	V		0.13-14'
	WTP-B08-SS1	"	16:00	"	"			V	V	V	V		0.16'
	WTP-B06	9/26/92	11:00	water	2 vials			V	V	V	V		
	WTP-B04	"	10:30	"	2 vials			V	V	V	V		
	<del>OSC-B01-SS1</del>	<del>9/25/92</del>	<del>17:50</del>	<del>Soil</del>	<del>1 qt</del>								
	* T. Mateo	CR	Bu	Pb	Zn	As	Hg	Ni					

RELINQUISHED BY: Jack Jensen DATE: 9-28/92 TIME: 8:40 RECEIVED BY: Michael J. Hall DATE: 9-28-92 TIME: 8:40

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

METHOD OF SHIPMENT: \_\_\_\_\_ REMARKS: \_\_\_\_\_



# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: Jack Jensen

JOB NAME: AFSCAPS

JOB # 5435 PO #       

LOCATION: Tinker AFB, OK

RR #1, Box 120-A  
Waterman Road  
South Royalton, Vermont 05068  
(802) 763-8348  
FAX: (802) 763-8283

4300 San Mateo Blvd. NE  
Suite A220  
Albuquerque, New Mexico 87110  
(505) 883-3636  
FAX: (505) 883-3673

SAMPLED BY: SPS

CASE / NEUTRAL ONLY

Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOLTTYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK REP NO. <u>      </u> PAGE(S) <u>      </u>	
								8240	421	422	423		
	GC LAB - BLANK 1	9/29/92	11:30	Water	2 vials								
	FTA - B01-SS1	9/28/92	12:45	soil	1 qt								1-2'
	FTA " "	"	"	"	1 vial								1-2'
	FTA - B04-SS2	"	12:50	"	1 qt								8-9'
	FTA " "	"	"	"	1 vial								8-9'
	OFR - B01-SS1	"	16:10	"	1 qt								6-4'
	OFR - B01-SS2	"	16:30	"	"								9-10'
	OFR - B01-SS3	"	16:40	"	"								16-14'
	OFR " "	"	16:40	"	1 vial								16-17'
	OFR - B01-SS4	"	17:15	"	1 qt								21-22'

RELINQUISHED BY: Jack Jensen DATE: 9/30/92 TIME: 8:20

RELINQUISHED BY:        DATE:        TIME:       

RELINQUISHED BY:        DATE:        TIME:

RECEIVED BY: Jack Jensen DATE: 9-30-92 TIME: 3:25

RECEIVED BY:        DATE:        TIME:       

RECEIVED BY:        DATE:        TIME:

METHOD OF SHIPMENT:       

9 HPLC Naphthalene, 1 Ne Naphthalene, 2 Ne Naphthalene  
5 T. Metals Cd, Cr, Ba, Pb, Zn, As, Hg, Ni

**APPLIED RESEARCH ASSOCIATES, INC.**

CONTACT: JACK JENSEK

JOB NAME: AFSCAPS

JOB # 5935 PO # \_\_\_\_\_

LOCATION: Tinker AFB, OK

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Base Ventrol Only

SAMPLED BY: SP5

[illegible]

T. Metals: Cd, Cr, Ba, Pb, Zn, As, Hg, Ni

# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: JACK SEMSEK

JOB NAME: AFSCAPS

JOB # 5735 PO #

LOCATION: Tupelo AFB

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SAMPLED BY: SPS Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK	
								8240	4181			REF NO.	PAGE(S)
	LF2-P2B	10/6		water	2 vials			✓					
	LF2-P2E	10/6		"	"			✓					
	LF2-P2A	"		"	"			✓					
	FPA-11-SS1	9/15		Soil	Tube				✓				01.5'
	FPA-47-SS1	9/21		"	"				✓				0 5'
	FPA-47-SS2	9/21		"	"				✓				0 10'
	FPA-47-SS3	9/21		"	"				✓				0 15'
	FPA-04-SS1	9/22							✓				0 5'
	FPA-04-SS2	"							✓				0 10'
	FPA-04-SS3	"							✓				0 15'

RELINQUISHED BY: <u>Jode Jorale</u>	DATE: <u>10/7/92</u>	TIME: <u>15:23</u>	RECEIVED BY: <u>J. Jorale</u>	DATE: <u>7 Oct 92</u>	TIME: <u>1525</u>
RELINQUISHED BY: <u></u>	DATE: <u></u>	TIME: <u></u>	RECEIVED BY: <u></u>	DATE: <u></u>	TIME: <u></u>
RELINQUISHED BY: <u></u>	DATE: <u></u>	TIME: <u></u>	RECEIVED BY: <u></u>	DATE: <u></u>	TIME: <u></u>
METHOD OF SHIPMENT: <u></u>					

CONTACT: JACK JENSEN

**APPLIED RESEARCH ASSOCIATES, INC.**

JOB NAME: AFSCAPS

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**South Royalton, Vermont 05068**

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**(505) 883-3636**

LOCATION: Catswell AFB, TX

**FAX: (802) 763-8283**

**FAX: (505) 883-3673**

SAMPLED BY: WUS Please send results to office circled above.

[illegible]

HPLC - Naphthylene + 2 Me Naphthol

# CHAIN OF CUSTODY

CONTACT: JACK JENSEN

JOB NAME: AFSCAPS

JOB # 5735 PO #         

LOCATION: Tinker AFB, OK

## APPLIED RESEARCH ASSOCIATES, INC.

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FAX: (505) 883-3673

SAMPLED BY: JPS Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED				FIELD LOG BOOK	
								1	2	3	4	REF NO.	PAGE(S)
	FPA-13-SS1	7/15/92		Soil	1 tube			✓					@ 5'
	FPA-13-SS2	"		"	"			✓					@ 10'
	FPA-20-SS1	7/26/92		"	"			✓					@ 5'
	FPA-20-SS2	"		"	"			✓					@ 10'
	FPA-20-SS3	"		"	"			✓					@ 15'
	FPA-42-SS1	"		"	"			✓					@ 5'
	FPA-42-SS2	"		"	"			✓					@ 10'
	FPA-42-SS3	"		"	"			✓					@ 15'
	FRAC TANK	10/4/92		Water	3 qt.						✓		Dean Rinse

RELINQUISHED BY: Jack Jensen DATE: 10/7/92 TIME: 15:23

RELINQUISHED BY:          DATE:          TIME:         

RELINQUISHED BY:          DATE:          TIME:         

METHOD OF SHIPMENT:         

RECEIVED BY:          DATE: 7 Oct 92 TIME: 1525

RECEIVED BY:          DATE:          TIME:         

RECEIVED BY:          DATE:          TIME:         

REMARKS:         

② TCLP = metals, semivolatiles, volatiles

# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: Jack Jemsek

JOB NAME: AFSCAPS

JOB # 5435 PO # \_\_\_\_\_

LOCATION: Tinker AFB, OK

RR #1, Box 120-A

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FAX: (505) 883-3673

SAMPLED BY: SP5 Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED					FIELD LOG BOOK	
								1/81					REF NO. _____	PAGE(S) _____
	FPA-05-SS1	9/22/92		Soil	1 tube			✓					051	
	FPA-05-SS2	"		"	"			✓					010	
	FPA-05-SS3	"		"	"			✓					0151	
	FPA-03-SS1	9/11/92		"	"			✓					051	
	FPA-03-SS3	9/11/92		"	"			✓					0151	
	FPA-11-SS2	9/15/92		"	"			✓					051	
	FPA-11-SS4	"		"	"			✓					0151	
	FPA-12-SS1	"		"	"			✓					051	
	FPA-12-SS3	"		"	"			✓					0151	

RELINQUISHED BY: <u>Jack Jemsek</u>	DATE: <u>10/7/92</u>	TIME: <u>15:23</u>	RECEIVED BY: <u>[Signature]</u>	DATE: <u>7 Oct 92</u>	TIME: <u>1525</u>
RELINQUISHED BY: _____	DATE: _____	TIME: _____	RECEIVED BY: _____	DATE: _____	TIME: _____
RELINQUISHED BY: _____	DATE: _____	TIME: _____	RECEIVED BY: _____	DATE: _____	TIME: _____
METHOD OF SHIPMENT: _____					
REMARKS: _____					

CONTACT: Jack Tensok

JOB NAME: AFscaps

JOB # 5735 PO #

LOCATION: Tinker AFB

**APPLIED RESEARCH ASSOCIATES, INC.**

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**FAX: (505) 883-3673**

SSAMPLED BY: SP Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESERVATIVE	ANALYSIS REQUESTED						REMARKS
								418.1	TCLP					
	DSW-1	10/6/92	17:18	SOL	1qt	-	-	V	V					FPA Comp Dr 1, 2, 8
	DSW-2	"	17:25	"	"			V	V					WTP/Osc Comp Dr. 15, 6
	DSW-3	" "	17:25	"	"			V	V					WTP/Osc Comp 5
	DSW-4	" "	17:30	"	"			V	V					FTA Comp, Dr 1 & 2
	DSW-5	" "	17:35	"	"			V	V					OFB Comp Dr 1 & 2
	a Metals, volatiles, and semi-volatiles													
RELINQUISHED BY: Jack Jemel		DATE:	10/7/92	TIME:	8:25			RECEIVED BY: Richard D. Jemel		DATE:	10-9-92	TIME:		8:25
RELINQUISHED BY:		DATE:		TIME:				RECEIVED BY:		DATE:		TIME:		
RELINQUISHED BY:		DATE:		TIME:				RECEIVED BY:		DATE:		TIME:		
METHOD OF SHIPMENT:		REMARKS:												

# CHAIN OF CUSTODY

## APPLIED RESEARCH ASSOCIATES, INC.

CONTACT: Jack Jensen

JOB NAME: AFSCAPS

JOB # 5435 PO # 54

LOCATION: Tinker AFB, OK

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Albuquerque, New Mexico 87110

(505) 883-3636

FAX: (505) 883-3673

SAMPLED BY: SPJ Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (V/N)	PRESERVATIVE	ANALYSIS REQUESTED					REMARKS
								8240	420.1	7 Metal	8240	TCLP	
	OFB-03-SS1	10/3/92		Soil	1 qt			✓	✓	✓	✓		5-6.7'
	OFB-04-SS2	10/3/92		"	"			✓	✓	✓	✓		5.6-7.4'
	OFB-04-SS1	"		"	"			✓	✓	✓	✓		4.0-5.6'
	LF2-10-SS2	10/2/92		"	"			✓	✓	✓	✓		6-7.6'
	LF2-07-SS1/SS2	"		"	"			✓	✓	✓	✓		8-11.6' Comp.
	LF2-06-SS1/SS2	"		"	"			✓	✓	✓	✓		7.5-11.1 Comp.
	LF2-05-SS1/SS2	"		"	"			✓	✓	✓	✓		5-8.6' Comp.

RELINQUISHED BY: <u>Jack Jensen</u>	DATE: <u>10/7/92</u>	TIME: <u>8:24</u>	RECEIVED BY: <u>Michael J. Wilson</u>	DATE: <u>10-7-92</u>	TIME: <u>8:25</u>
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
METHOD OF SHIPMENT:			REMARKS:		

- (a) Ca, Cr, Ba, Pb, Zn, As, Hg, Ni
- (b) ~~Base~~ Base / Vent / of only



# CHAIN OF CUSTODY

CONTACT: Spck Jensen

APPLIED RESEARCH ASSOCIATES, INC.

JOB NAME: AFSCAPS

4300 San Mateo Blvd. NE  
Suite A220

JOB # 5435 PO #         

Albuquerque, New Mexico 87110  
(505) 883-3636

LOCATION: Tinker AFB, OK

FAX: (505) 883-3673

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Waterman Road  
South Royalton, Vermont 05068  
(802) 763-8348  
FAX: (802) 763-8283

SAMPLED BY: JS Please send results to office circled above.

LAB NUMBER	FIELD IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	CONTAINER VOL/TYPE	FIELD FILTERED (Y/N)	PRESER-VATIVE	ANALYSIS REQUESTED					FIELD LOG BOOK REF NO. <u>    </u> PAGE(S) <u>    </u>
								8240	8241	8242	8243	8244	
LEA-05-SS1	10/1			soil	1 qt.	-	-	✓	✓	✓	✓	✓	3'-4.6'
LEA-05-SS2	10/2			solid waste	1 qt.								6-7.6'
LEA-06-SS1/SS2/SS3	10/2			"	"			✓	✓	✓	✓	✓	7-9.6' comp
LEA-06-SS4	10/2			soil	"			✓	✓	✓	✓	✓	13-14.6'
LEA-11-SS1	"			"	"			✓	✓	✓	✓	✓	8-9.6'
LEA-06-W1	10/1			water	1 viol			✓	✓	✓	✓	✓	0.9'
LEA-06-W2	10/1			"	2 viols			✓	✓	✓	✓	✓	0.15.5'
LEA-05-W1	10/1			"	"			✓	✓	✓	✓	✓	0.9'
LE2-P2C	10/6			"	"			✓	✓	✓	✓	✓	
LE2-P2D	10/6			"	"			✓	✓	✓	✓	✓	

RELINQUISHED BY: <u>Jode Jank</u>	DATE: <u>6/7/92</u>	TIME: <u>15:23</u>	RECEIVED BY: <u>Jode Jank</u>	DATE: <u>7/2/92</u>	TIME: <u>15:25</u>
RELINQUISHED BY: <u>        </u>	DATE: <u>        </u>	TIME: <u>        </u>	RECEIVED BY: <u>        </u>	DATE: <u>        </u>	TIME: <u>        </u>
RELINQUISHED BY: <u>        </u>	DATE: <u>        </u>	TIME: <u>        </u>	RECEIVED BY: <u>        </u>	DATE: <u>        </u>	TIME: <u>        </u>
METHOD OF SHIPMENT: <u>        </u>					
REMARKS: <u>        </u>					

- (A) CA, CR, Ba, Pb, Zn, As, Hg, Ni
- (B) BASE/NEUTRAL ONLY
- (C) metals, volatiles, semi volatiles